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## LECTURES
ON
## COMPARATIVE ANATOMY
AND
## ANIMAL PHYSIOLOGY,

DELIVERED BY

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### LECTURE XXXIX.

#### ON THE ORGANS OF VISION.

At the extremities of most of the sensitive nerves which issue from the intervertebral foramina of the cranium, or those next to the entrance of the alimentary canal, are placed instruments adapted to convey a more perfect cognizance of the properties of outward objects; these instruments are the *organs of the senses*, and their consideration follows naturally that of the nervous system to which they are subordinate. These optical, acoustic, and other instruments, placed before the sensitive nerves of the cranial vertebræ, are not designed to receive or to communicate sensations, but to convey more distinct impressions to these nerves, and thus to excite more distinct perceptions of the various properties of surrounding objects, so as to enable the animal better to distinguish what is useful from what is hurtful to its nature. In the more perfect forms of these instruments, the principal sensitive nerve of the organ is accompanied by an accessary branch, which s also indispensable to the function. The most numerous, the most varied, and the most important impressions, are those which animals receive from light, so extensively spread through nature; indeed this agent exerts an important influence on the three kingdoms of natural bodies, on the constitution and properties of minerals, and on all the vital movements of plants and animals. Many animals, like plants, are obviously affected by light, without possessing organs of vision, or even a perceptible filament of nervous matter; and where the nervous system and the organs of the senses are the most developed, these great centres of the animal functions are situate where they may best watch over the vegetative. As plants, guided by light, open and close their flowers and their leaves, or follow with their expanded flowers the course of the sun, or seek the light with their branches and their leaves, without a nervous system, so we perceive the gemmules of poriferous animals guided in the selection of their place for fixing and developing by the influence of the same agent. Some zoophytes expand or contract their body or their polypi according to the intensity of the light; and the free moving hydræ seek the most lighted situations in their aquatic element, without exhibiting either organs of vision or nerves, and the topographical distribution of the spontaneously moving gemmules in that class of animals, on the surface of rocks, or caves, or precipices, or the bottom of the ocean, appears to be regulated chiefly by the influence of light. The spontaneous motions of medusæ, and other gregarious acalepha, appear also to be guided by this agent, without their having distinct organs appropriated to it.

Organs, however, appropriated to light are perceptible in animals, where no nervous filament has been yet discovered in their body. Many of the minute polygastric animalcules are sensible to light, and seek it, like the hydræ among zoophytes; and on examining their surface with a microscope, we can generally detect small, round, opaque, red-coloured spots, on the anterior part of their body. In many of the simplest polygastric animalcules, those red points are so closely

approximated as to constitute a single eye, constituting a monoculous animalcule. Now no magnifying powers, which the anatomist yet possesses, enable him to dissect those minute visual organs of the polygastric animalcules. The most powerful means of investigating these minute structures only show those minute organs as opaque red spots on the back part of the head, and symmetrically disposed, as the eyes in annelides and other animals of the lowest grade of organization. There are sometimes two of these distinct well-defined red points disposed on the upper part of the neck, as you see in the *euglena acus* of Ehrenberg (*Fig.* 148, *a*), where

*Fig.* 148

they contrast beautifully with the lively-green colour of the body, and as we see also in the body of the *cercaria viridis*, which is highly sensible to light, and seeks to enjoy it. In the thin membranous green-coloured body of the *euglena longicauda* (*Fig.* 148, *b*), these minute eyes are united, and appear as a single small red point near the anterior part of the body. These eyes are more obvious in many of the larger polygastric animalcules, as this yellowish-gray-coloured *ophryoglena flavicans* (*Fig.* 148, *c*), where there appears but one red spot on the median line near the anterior part of the body. These rudimentary organs of vision are seen even in the *monads*, which have been commonly placed at the bottom of the animal kingdom, but no filament of nervous matter has ever been detected in the body of a polygastric animalcule. This superficial opaque spot, to absorb the rays of light, is the first form of the eye which we see also in annelides and in the larvæ of insects, when that organ is beginning to develop; so that when a distinct optic nerve is added to this organ, it is naturally developed behind this pigment, a position which it most frequently presents in the eyes of invertebrated animals, even when transparent parts are added to collect light, or to form an image to be transmitted through a hole in this choroidal pigment. The great activity and rapid movements of the *polygastrica*, above all the other radiated classes, required them to possess organs adapted to the perception of luminous rays, and to distinguish light from darkness, if not to perceive the forms and properties of outward objects as their prey. The fixed condition or the slow movements of the other radiated classes, render less necessary to them organs of this nature, and although they are found in every class of the helminthoid and entomoid animals, they are not found in any of the higher radiated classes.

The entozoa for the most part require no organs of vision, and scarcely any organs of sense. What should the *hydatid*, or the *guinea-worm*, or the *ascarides*, do with palpi, or antennæ, or eyes, living, as they do, embedded in the soft fleshy substance of the animals upon which they feed? The substance upon which they feed is that in which they are embedded, and is everywhere in contact with the soft surface of their body,—that is, their organ of sense. But there are animals belonging to this class which are not so internally situate, and which have a great part of their body hanging free in the surrounding external element; the *lernæa*, the *chondrocanthus*, and numerous other genera of those animals, hanging immoveably attached to the soft external parts, the mouth, for instance, or the gills, or the eyes of fishes, require more to have the means of distinguishing the parts they are to pierce and to suck, and of acquiring generally more distinct and precise impressions from the surrounding parts, than those that are entirely buried within a fleshy substance upon which they feed; therefore it is that many of those remarkable animals have been found to possess distinct sessile simple eyes, which are almost always united into one on the median line of the head, or consisted originally of one, as in many of the animalcules, and of the rotiferous animals, and of the microscopic crustacea. In some the eyes are more numerous, and are placed apart from each other, as we see in this remarkable little animal found on the gills of the *bream*, and called by Nordmann *gyrodactylus auriculatus* (*Fig.* 149), where we perceive four minute red-coloured eyes, placed in two pairs behind each other on the back part of the neck. In the great family of lernæa, however, there is commonly but one round conspicuous sessile eye placed above the anterior extremity of the trunk, as in the *lamproglena*, where there is already a partial division of the trunk into a head with tentacula and maxillæ, a thorax consisting of three segments, and an abdominal portion consisting of four less-distinctly-marked lengthened segments. The *ergasilus gibbus* (*Fig.* 150), found attached in myriads to the gills of fresh-water fishes, presents a cephalo-thorax,

*Fig.* 149

abdominal distinct segments, long ovarial sacs, rudimentary extremities, antennæ, maxillæ, and a very distinct dark round single eye, placed above the anterior extremity of the trunk. Thus we perceive in the position, the form, and the structure of the eye in these singular epizoa, a further affinity to the entomostracous and parasitic crustacea, where the monoculous character is common to many of the principal forms.

*Fig.* 150

In nearly all the *rotiferous* animals,—the wheel-animalcules,—eyes are distinctly present, of a round form, often two in number, of a red colour, sometimes closely approximated or united to each other, and placed as in the polygastric animalcules in one circular spot on the upper and anterior part of the body. This distinct development of the organs of vision, is not so remarkable in these wheel-animalcules, when we consider the whole complicated internal structure, and the active living condition of those minute rotiferous animals that are not buried in a fleshy substance, like entozoa, nor fixed to rocks like most radiata, but which move about rapidly in all directions by the vibrations of their little wheels or circles of cilia, on the anterior part of their body; therefore it is that they require to have relations established more intimately between them and the surrounding bodies, and the more so as they possess a highly complicated and very delicate internal organization, It would, indeed, be anomalous to find so largely developed ganglia at the anterior part of the body,—these cerebral and œsophageal ganglia in the rotifera, were those animals not possessed of some kind of organs for particular sensations developed in that region of the body. These eyes have been figured in several of the species of the rotifera in these plates of Ehrenberg. As I have mentioned, we observe them at the anterior part of the body, behind the muscular apparatus of the cilia when these are protruded, and they appear as two deep-red, opaque, separate, round spots. On pressing the little wheel-animalcule between two plates of glass, the eyeball is seen to burst, and the deep-coloured pigment to escape. These two deep-red eyes are seen, not only in almost all the wheel-animalcules, but also in the fœtus in ovo, while yet within the transparent body of the parent. The apparent position of these eyes varies according to the degree to which the muscular apparatus of the mouth is extended, but almost always preserve a position anterior to the jaws. They are never pedunculated, nor protected by external coverings of any kind.

In the cirrhopodous animals we find articulated beings inverted in solid, and, for the most part, very opaque shells; fixed permanently in those shells, and capable by their structure only of extending the posterior part of their trunk from the cavities of their shells. What should such animals do with eyes to stare at the bottom of the shut cavities of their shells; and if they could see, of what advantage would it be? Seeing that they are fixed permanently in an inverted position in the shells, it would be misery to see what was to be desired, and yet not be able to move a member, finding themselves thus fixed. Therefore it is we find no cirrhopod possessed of organs of vision, and they are remarkable among the articulated classes for their deficiency in organs of sense.

In most of the free *annelides*, as in the rotifera, the eyes are obvious, and they are often numerous in this class, where they remain simple, sessile, and detached. In the little *prostoma armatum*, the head is covered with oculiform points of a dark colour, and in the minute *prostoma clepsinoideum*, a small planaria, there are six eyes. In other species of prostoma there are four eyes. In many *planariæ* there are two eyes, in some, as the *planaria viganensis*, there is a single row of about

forty eyes, passing round all the fore part of the body, and the same is the case with the *planaria nigra*. This long lineal arrangement of the eyes in these very simple annelides, resembles their mode of distribution around the margin of the mantle in the pecten among the low acephalous mollusca. We see this arrangement again in the simple though numerous eyes of the leech. In the *syllis monilaris* there are two pairs of eyes which are placed on two lateral lobes of the first segment, and in the *nereis nuntia* there are four large and numerous small eyes disposed around the head. There are only two in the *euphrosine laureata*. These eyes commonly project shining from the general surface, and present a transparent lens, added to the dark pigment and the optic nerve.

The eyes of the *myriapods* partake both of the character of those of the inferior annelides, and of those of the higher forms of insects. Some present no trace of these organs. Most present numerous separate simple eyes disposed in groups on the sides of the head; but the *scutigera* has large compound eyes like those of an insect. Even in these compound eyes of the *scutigera*, the several corneæ are more round and larger than they are on the compound eyes of true hexapodous insects, and present only an approach to that singular form of the organ of vision. The compound eyes of perfect *insects* consist merely of an aggregate of many of these more detached eyes of the myriapods, they form a globular mass of twenty or thirty thousand minute eyes closely pressed together on each side of the insect's head. The epidermis passes smooth over the whole exterior of the globe, and immediately beneath it are placed the numerous hexagonal facettes or corneæ of the several minute eyes, as you observe in the common cockchaffer *melolontha vulgaris* (*Fig.* 151). Beneath the continu-

*Fig.* 151

ous thick external layer formed by the aggregation of these hexagonal and almost prismatic corneæ, are placed the lenses of a smooth round conical form, with their flat base towards the cornea, and their apex directed inwards to the terminal point of the optic nerve (*Fig.* 151, *a*). These conical transparent horny lenses (*Fig.* 151, *b*) are easily scraped off from the inner surface of the corneæ, and appear, when thus isolated, to have smooth round parietes with a flat base, and they acquire a whitish opaque colour, by the action of spirit like those of higher animals. They are surrounded by the choroid pigment, and in some, as the *libellulæ*, this choroid seems to form a sort of iris or uvea between the base of the lenses and the inner surface of the corneæ, and to leave space for a small quantity of aqueous humour. The lenses are remarkable for their length in the *libellulæ*, where they appear like long slender parallel transparent cylinders, tapering a little towards the ends of the optic n… they are generally much shorter … portion to their breadth, as you … cockchaffer (*Fig.* 151, *b*). T… optic nerves, at the bases … pass backwards through … pigment or vitreous humo… optic ganglion within the … which is almost a prolo… brain itself. The light h… interrupted passage thro… transparent homogeneous c… dermis, then through the tra… tral part of each hexagonal … lastly, through the pupilar ope… choroid and the conical lens … where it reaches the terminal po… the several optic nerves (*Fig.* 151, *a*), which the impression is felt or conveyed to the brain. Besides these compound eyes, insects often present at the back part of the head several simple sessile detached smooth eyes, like those of inferior articulated classes, and these simple eyes or ocelli are those which alone are developed in the larvæ. In these simple eyes of the larva, as in this caterpillar of the *cossus ligniperda* (*Fig.* 152), nearly the same structure exists, as in each of the separate parts of the compound eye of the perfect insect. We observe six of these *ocelli* disposed in a circular form on the parietal pieces of the head; these simple eyes have a cup-like form (*Fig.* 152), each covered with its own convex cornea, and having its minute transparent round or spherical lens in front of the vitreous humour and optic filament, with a transparent axis through the middle of the choroid, pointed out by Lyonet. Each of these *ocelli* has a branch of a trachea directed to it (*Fig.* 152), and Straus has

detected the ramifications of these tracheæ in the compound eyes of the *melolontha*. The ocelli are generally three in number on each side of the head behind the compound eyes, when they occur along with these in the perfect insect, and their whole organization agrees very closely with that of the simple eyes of the arachnida. Those ocelli, which are the only organs of vision of the larva, have been considered as organized for receiving impressions solely from near objects, while the compound eyes are organized for receiving impressions from objects at greater distances; and this is thought to accord with the condition of the larvæ often immersed in putrid carcasses, or creeping over the surface of de- ng organized matter. They have no fly with to a distance; they have v to be informed of that which ce, but have only to regard iately before their jaws, or for those animals are ue dead matter, and to g, and they pass a great this voracious condi- g only simple eyes or simple and compound none of the important ich are superadded to on in higher animals. g external apparatus of ion are here still wanting. elids, lachrymal glands, and her and more perfect appa- complete the organ, we find these ts brushing the globe with the hairy downy substance covering their legs and their tarsi.

*Fig.* 152

The eyes of *arachnida*, like those of the myriapods, are simple and sessile, while those of crustacea are compound, like those of insects. From two to twelve of these smooth eyes are seen in the animals of this class. There occur ten in some of the scorpions, and twelve in others, and the largest of them present the most elevated form of this organ which is found in the articulated division of the animal kingdom. Beneath the usual convex cornea there is a short round crystalline lens as in the eye of the vertebrata. There is a vitreous humour placed before the pigmentum and the choroid, and the optic nerve spreads out into a membranous retina, so that the organ of vision here approaches much more nearly to its vertebrate form, and the structure appears to be the same in the *mygale*, and the tarantulæ, and all the larger arachnida.

The eyes of crustaceous animals are compound, generally pedunculated and moveable, often sessile and immoveable, like those of insects, and in the lower entomostracous species the eyes are frequently united on the median plane into a single organ constituting true monoculi, a character in which these parasitic crustacea approach to the epizoa. The internal structure is the same as in the compound eyes of insects, and has been known in this class from the time of Lewenhoek, who first observed the crystalline conical lenses within the external layer of angular prismatic corneæ, spread over the whole ball of the eye in the common cray-fish or river-crab. These parts of the compound eyes of crabs have also been described by Cavolini, by Swammerdam, and by many later observers, so that the similarity of these organs in the two classes is satisfactorily established. Beneath the continuous homogeneous epidermis the prismatic corneæ are sometimes quadrangular, but most frequently hexagonal, and to the under extremity of these prismatic corneæ are applied the flat bases of the conical transparent lenses, which have their truncated internal apices applied to the ends of the optic nerves. As in insects, the whole sides of these transparent conical lenses, as well as the optic filaments at their inner extremities, are covered with the dark, opaque, choroid pigment, so that only a small pencil of light gains admission through these long narrow darkened tubes to the minute aperture at the posterior truncated apex of each lens where the optic nerve terminates. The optic nerves themselves, throughout their course in the ball of the eye, are covered with the same choroid opaque pigment as that which coats the lenses. The lenses in the cray-fish, and in the *palæmon sulcatus*, are not round in their outline, but four-sided truncated pyramids; most generally, however, they are round tapering cones truncated at their interior apex, and they are seen of this form even under the smooth and undivided continuous cornea spread over the eyes of monoculi. We thus observe a gradual development, and a constancy of character in the structure of the eye, throughout the series of articulated classes, which, of all the invertebrata, most required these organs from their great powers of locomotion. And from their general want of muscular apparatus to move these organs in all directions, and to adapt them to different distances, we observe them amply provided with a repetition of the same simple structures placed in all directions, and adapted permanently to all required distances.

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ous thick external layer formed by the aggregation of these hexagonal and almost prismatic corneæ, are placed the lenses of a smooth round conical form, with their flat base towards the cornea, and their apex directed inwards to the terminal point of the optic nerve (*Fig.* 151, *a*). These conical transparent horny lenses (*Fig.* 151, *b*) are easily scraped off from the inner surface of the corneæ, and appear, when thus isolated, to have smooth round parietes with a flat base, and they acquire a whitish opaque colour, by the action of spirit like those of higher animals. They are surrounded by the choroid pigment, and in some, as the *libellulæ*, this choroid seems to form a sort of iris or uvea between the base of the lenses and the inner surface of the corneæ, and to leave space for a small quantity of aqueous humour. The lenses are remarkable for their length in the *libellulæ*, where they appear like long slender parallel transparent cylinders, tapering a little towards the ends of the optic nerves, they are generally much shorter in proportion to their breadth, as you see in the cockchaffer (*Fig.* 151, *b*). These slender optic nerves, at the bases of the lenses, pass backwards through the semi-fluid pigment or vitreous humour to the great optic ganglion within the globe of the eye, which is almost a prolongation of the brain itself. The light has thus an uninterrupted passage through the outer transparent homogeneous covering of epidermis, then through the transparent central part of each hexagonal cornea, and, lastly, through the pupilar opening of the choroid and the conical lens behind it, where it reaches the terminal points of the several optic nerves (*Fig.* 151, *a*), by which the impression is felt or conveyed to the brain. Besides these compound eyes, insects often present at the back part of the head several simple sessile detached smooth eyes, like those of inferior articulated classes, and these simple eyes or ocelli are those which alone are developed in the larvæ. In these simple eyes of the larva, as in this caterpillar of the *cossus ligniperda* (*Fig.* 152), nearly the same structure exists, as in each of the separate parts of the compound eye of the perfect insect. We observe six of these *ocelli* disposed in a circular form on the parietal pieces of the head; these simple eyes have a cup-like form (*Fig.* 152), each covered with its own convex cornea, and having its minute transparent round or spherical lens in front of the vitreous humour and optic filament, with a transparent axis through the middle of the choroid, pointed out by Lyonet. Each of these *ocelli* has a branch of a trachea directed to it (*Fig.* 152), and Straus has

detected the ramifications of these tracheæ in the compound eyes of the *melolontha*. The ocelli are generally three in number on each side of the head behind the compound eyes, when they occur along with these in the perfect insect, and their whole organization agrees very closely with that of the simple eyes of the arachnida. Those ocelli, which are the only organs of vision of the larva, have been considered as organized for receiving impressions solely from near objects, while the compound eyes are organized for receiving impressions from objects at greater distances; and this is thought to accord with the condition of the larvæ often immersed in putrid carcasses, or creeping over the surface of decaying organized matter. They have no wings to fly with to a distance; they have no necessity to be informed of that which is at a distance, but have only to regard what is immediately before their jaws, or their proboscis; for those animals are formed to consume dead matter, and to convert it into living, and they pass a great part of their life in this voracious condition, and possessing only simple eyes or *ocelli*. Now, in these simple and compound eyes, we yet observe none of the important external parts which are superadded to the organ of vision in higher animals. All the perfecting external apparatus of the organs of vision are here still wanting. In place of eyelids, lachrymal glands, and all that higher and more perfect apparatus to complete the organ, we find these insects brushing the globe with the hairy downy substance covering their legs and their tarsi.

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The organs of vision are less generally developed in the molluscous than in the articulated classes, which corresponds with their comparatively limited powers of locomotion. The *tunicated* animals, like the cirrhopods and most of the entozoa, fixed and buried in an opaque covering, neither possess nor require eyes, and the same is the case with nearly all the *conchifera*. In the free-moving *pectens* however, which swim rapidly by the flapping of their valves, we perceive at the bases of the tentacula developed around the margins of the mantle, distinct, isolated, minute, shining, round eyes, which present an opaque and shining choroid embracing a small lens, and probably in many other highly locomotive conchifera. These minute shining black opaque visual organs of the clams occupy a situation exactly such as one would expect in swimming conchiferous animals,—in the part most exposed to receive impressions from without, and on the most highly organized and delicate part of the sensible mantle. They are placed at the bases of the tentacula, which is likewise the common position of the eyes of the gasteropods.

In the gasteropodous mollusca we observe that the naked hermaphrodites, such as the doris, the scyllæa, the eolis, and many others, are generally destitute of organs of vision. In some, however, which are naked, as the aplysia and the slugs, we perceive distinct and complicated organs for this function. In the testaceous gasteropods the eyes are generally placed at the base of each of the tentacula. They are sometimes placed upon the general smooth surface of this part of the neck, as in *aplysia*. At other times, as in the *buccinum* and the *patella*, you perceive those eyes to be raised slightly from the general surface by a small peduncle; but in the *haliotis* those peduncles are lengthened to a considerable extent; and in the snail they are of great length, extending the whole length of the tentacula themselves.

These organs of vision occurring thus separately, are so large that they are now more capable of being satisfactorily anatomized with the aid of a lens; and Swammerdam long since gave a minute account of the eye of the common snail, the *helix pomatia*. He found it to possess a distinct external cornea and aqueous humour. It has a small crystalline lens enclosed in a distinct capsule, a vitreous humour behind the lens, and an enveloping choroid coat with pigment lining it.

In the *cyclostomum viviparum* a distinct iris as well as a choroid coat and lens were observed and described by Stiebel, and Muller observed nearly the same structure in the eyes of the *murex tritonis* (*Fig.* 153), where they are placed in their

*Fig.* 153

most common situation at the outer part of the base of the tentacula. The delicate skin of the tentaculum formed a thin transparent cornea over each eye, and left a distinct anterior chamber for the aqueous humour in front of the iris. The black circular iris, continued from the choroid coat, presents here a large round pupil directed obliquely outwards from the base of the tentaculum, and the interior of the cavity formed by the black choroid is filled with the firm transparent substance of the large crystalline lens, of a round form and amber coloured. The optic nerve (*Fig.* 153), which enters the eyeball obliquely on the outside of the axis, comes off as a branch of the common nerve of the tentaculum.

The structure of the organs of vision of the *pteropods*, generally two in number, is almost unknown, but in the class of *cephalopods* they present the greatest size and the most complex structure which they have attained among the invertebrated animals. As in many of the gasteropods, and again in many of the higher cartilaginous fishes, the eyes of the cephalopods are sometimes pedunculated, as in the nautilus, and in some of the naked species. They are generally, from the want of aqueous humour, flattened in front like the eyes of fishes, and of great magnitude from the size of the optic ganglion and the glandular masses contained within the eyeball and behind the choroid and the retina, as you observe in this section of the eye of the *octopus vulgaris* (*Fig.* 154). But a small part of this great eyeball is occupied with the proper instrument of vision, and it is almost as motionless as that of an aplysia or a murex. A fold of the skin here forms eyelids, which, like the iris, are still almost motionless. The ciliary processes are remarkable for their great development, and the lens for its double structure and its great convexity. The vitreous humour enclosed in its hyaloid membrane is of a thin fluid consistence and inky

*Fig.* 154

colour, and the pigment of the choroid is remarkably soft and loose in its recent state. In the loligo there is a small hole on the surface leading to the glandular cavity of the eye like a lachrymal pore. Thus the isolated character of the eye continues through the molluscous classes, and its general plan of development in this division leads its structure to a higher grade of complexness, and to a closer approximation to the form of that organ in the vertebrated classes than we observed in the highest of the articulata. And throughout these invertebrated classes we uniformly observe the same free transmission of light through the transparent optical instrument to the optic nerve, as in the vertebrata.

The eyes of the *fishes* are organized to receive the rays of light through the dark and dense medium of the water. We have seen that those animals possess but a very small development of their great nervous centres, and they are so situate as to receive very imperfect visual impressions, particularly the predaceous fishes at the bottom of the dark and turbid deep, therefore it is that they have large eyeballs, that they may receive a large quantity of light in order to affect them sensibly with impressions of this kind. Thus the eye of a cod-fish is many times the size of the eye of a quadruped of the same bulk; and thus it is that the magnitude of the organ placed on the anterior part of those sensitive nerves, compensates for the imperfect development of the great centres of consciousness or of reference for those impressions.

Fishes have the eye organized to receive the impressions of light through the dense medium they inhabit. What use could they have, therefore, for an aqueous humour? The water through which the rays come is as dense as that humour; therefore they have the anterior part of the eye flat, from the deficiency in the aqueous humour, of which, however, there is just as much present as is calculated to keep the iris from uniting to the choroid, or the lens behind to the uvea. Even the vitreous humour possesses too much rarety to be an important visual instrument in fishes,—completely aquatic animals; therefore it is that the whole stress of converging the rays of light into a small focus is left to their crystalline lens. The crystalline lens in a fish is, therefore, proportionally of great size: it is nearly spherical; it is dense in its texture from its centre to nearly the circumference. It is a highly complicated organ: it consists of concentric layers of fibres, which layers of fibres, perfectly transparent and colourless in the recent state, are quite invisible until artificial means are employed to render them opaque and distinct. Thus it is that you can peel off the successive layers of those fibres from the condensed crystalline lens of the fish, when you have hardened those concentric layers of fibres by the action of spirit, hot water, or other means. The remarkable forms of the separate fibres are then also more easily perceived, and their modes of uniting together by their serrated edges. This structure of the crystalline lens is seen in all animals which possess that organ, up to man himself. Zoological characters might even be obtained from the disposition of the fibrous layers, and the forms of the ultimate fibres composing the crystalline lens. The crystalline lens, then, is not like a piece of glass, homogeneous throughout; but is a most complex and perfect optical instrument for acting upon the rays of light, and bending them suddenly and uniformly and without decomposition, to a focus anterior to the surface of the retina, on which the inverted image is thus thrown. Thus it is, then, that we find the longitudinal axis of the eye in fishes to be occupied, in a great part of its length, with the diameter of the lens itself, the diameter of that part exceeding, in most fishes, the diameter of the aqueous and the vitreous humours taken together. Of so little use are those more attenuated fluids in the eyes of fishes, that the retina is generally pushed still further forwards towards the crystalline lens by the choroid gland, and other parts placed within the sclerotic coat, and within the outer silvery layer of the choroid, at the back part of the eye. The sclerotic coat is thick behind, to prevent sphericity of the eye from the equal pressure of the contained humours. The choroid and the retina are here remarkable for the distinct-

ness of the coats of which they are composed. The optic nerves sometimes have their fibres decussating and blending with each other; sometimes they simply lie across each other; and sometimes the one passes through a hole of the opposite nerve. The ciliary processes are still most frequently deficient. The pupil is large, and the iris almost motionless. The outer layer of the choroid passes, shining with its metallic lustre, over the iris, and the dark inner layer lines the uvea. This inner layer forms a kind of pecten passing obliquely forwards to the lens, but without the pigment which covers it in birds.

The eyes of *amphibia* are intermediate in their outward form and in their interior structure, between those of the fishes that live constantly in the water and those of the true air-breathing reptiles that live on the dry land, and receive the rays of light through the thin medium of the atmosphere. Those amphibious animals have, therefore, the eyes of great magnitude. They are comparatively flat upon the fore part, from the small quantity of aqueous humour they yet contain. They exhibit a crystalline lens of considerable thickness in its diameter, in the direction of the axis of the eye. From the imperfection of the orbit in the amphibious animals in the lower part, we perceive them capable of moving the eye downward in a remarkable manner, when it is touched or irritated. They have, like most of the aquatic animals, a very imperfect development of the lachrymal glands. In the amphibious animals we observe the upper and the lower eyelids distinctly developed; the lower eyelid is, in most of the animals below quadrupeds, the more moveable of the two. The amphibious animals have also the membrana nictitans, which they carry with rapidity over the surface of the eye.

The most remarkable structure, perhaps, in the eyes of *reptiles*, and by which they are closely approached to those of birds, is the occurrence of a circle of imbricated bones around the transparent cornea, which is seen in many of the chelonian reptiles. We observe it also in the iguana, and in many others of the saurian reptiles. What is remarkable is, that some of those gigantic saurian reptiles which formerly inhabited our seas, have manifested the same circle of bones around the transparent cornea. That is beautifully seen in these preserved remains of that gigantic aquatic reptile, the ichthyosaurus. Around the circumference of the transparent cornea in this enormous eye, we observe distinctly radiating lines in these fossil remains, which indicate the limits of the several imbricated plates that surrounded the transparent cornea; so that they in this respect resembled many of the existing saurian reptiles, particularly those crocodilian reptiles which, like the ichthyosaurus, have an aquatic or semi-aquatic life. The ciliary processes are also large in these crocodiles.

We observe that the epidermis passes over the surface of the cornea, and over the eyeball in serpents; that it is cast from that part along with the epidermis, which is thrown off in a piece from the surface of the whole body. From the very imperfect development of the eyelids in those animals, they were once erroneously thought to be destitute of the lachrymal apparatus. In the saurian reptiles we observe distinctly developed the upper and lower eyelids, and the membrana nictitans. Even in that small tribe of serpents comprehending the *anguis* and a few other genera, the three eyelids are developed as in the saurian reptiles, which indicates a very close affinity between those ophidian reptiles and the saurian.

In the chelonian reptiles we observe a considerable affinity in the structure of the eye with that of birds. They receive the rays of light, particularly the land species, through the medium of the atmosphere. We observe that their cornea is, therefore, prominent, that the quantity of the aqueous humour is considerable; and in order to preserve that convexity of the transparent cornea, their eye must be provided on its peripheral surface with some solid parts to prevent the pressure of the fluids within giving it a spherical form, and therefore they have a circle of bones around the cornea. We observe accompanying this convexity of the transparent cornea, a thinness or short axis of the crystalline lens, and a greater diameter of the aqueous and of the vitreous humours.

The eyes of *birds* manifest a beautiful adaptation in all their parts to the rare medium through which they are to receive the rays of light. The difference of the density of the atmosphere and the aqueous humour of the eye, renders that humour's refractive power nearly sufficient for all the refraction which the rays of light require for the purpose of being concentrated to form an inverted image at the bottom of the eye in birds, aided by a very flat crystalline lens and a considerable vitreous humour. Thus they present the opposite extreme in this point of the structure of the eye to that of fishes, which receive the rays of light through a medium which is as dense and refractive of the rays of light as the aqueous humour itself. It was, therefore, needless to occupy the eyes of fishes with aqueous

humour which could not have assisted the cornea in refracting the rays of light. But in birds the aqueous humour on account of the difference of its density compared with that of the atmosphere, is sufficient to act powerfully on these rays, and to bend them down to form an inverted image at the bottom of the retina. Thus it is we find the transparent cornea so convex and prominent in the class of birds. This prominence of the cornea could not be preserved were there not here also solid apparatus to prevent the pressure of the fluids within from expanding the delicate coats into a spherical form. Thus it is, we observe, around their transparent cornea, particularly in the rapacious birds, a series of imbricated and often lengthened bones, which form the eyeball into a tubular shape. This is remarkable in the large-horned owls. Thus it is also that we find, along with this very abundant aqueous humour, that the crystalline lens is soft, and flatter in birds than in any other animals. Hence we find so large a proportion of the vitreous humour behind the crystalline lens; and the whole eyeball, thus filled with those thin humours which possess so little refractive power, is of great size, corresponding with the great magnitude we have seen in their orbits. At the bottom of the eye in birds, we observe a continuation of the choroid coat, puckered and extended in this double and folded form, forwards to the margin of the crystalline lens, to which it is attached. This is the marsupium or pecten of birds, which, by shooting forward from the posterior part of the eye, and thus continuing forwards the highly vascular layer of the choroid, was thought, by increasing the surface for the distribution of these bloodvessels, to provide for the rapid secretion of the vitreous humour so much and so quickly consumed by the extensive and frequent use of this organ, and corresponding with the high development and energy of the whole system, the high temperature of the whole body, as well as with the use which is made of this organ in birds. Some, from observing that it shot forwards in the centre of the eye, and that it is covered with a black pigment over its whole surface, conceived, that as birds soar aloft into the atmosphere against the burning sun, exposed to the unshaded blaze of that bright luminary, they would be deprived of vision were they not provided with some means to absorb and destroy a quantity of the light; and that, therefore, this black membrane was thrust forwards into that part where the light was most powerfully concentrated by the humours of the eye. From observing it pass forwards obliquely to the margin of the capsule of the lens, some have thought it was of a contractile or muscular nature; and that, as we cannot account for the remarkable adaptation of the eye of birds so quickly to different distances, and those often different to a great extent, very likely this marsupium or pecten acted somehow upon the crystalline lens so as to affect its form or position, and adapt it for vision at those different distances, independently of the external muscles or other parts.

The membrana nictitans is powerfully developed, of great size, and moved by two powerful muscles, in birds; where it is a highly important organ for the defence of the eye against light, and to moisten its surface in passing so rapidly through the dry and heated strata of the atmosphere. This membrana nictitans is not peculiar to birds, however; but is met with in fishes, up through many of the mammalia; and a rudiment of it we perceive in the inner canthus of the human eye.

As quadrupeds receive the rays of light through very different refractive media,—as they fly, or walk, or swim, we observe a considerable difference in the structure of their eye, with relation to the difference of the density of these media. In cetaceous animals, which receive the rays of light like fishes through the water, we observe the eyes to be flat on the fore part, to have a comparatively small quantity of aqueous humour, to have the crystalline lens of greater diameter from before backwards, and to have a comparatively small quantity of the vitreous humour. In order to preserve the flatness of the anterior part of the eye in cetacea, they have not that circle of bones placed around the transparent cornea which we see in many reptiles and in birds, but they have the sclerotic, at its back part especially, of great thickness, firmness, and elasticity, by which the fluids within are prevented from pressing the ball of the eye into a spherical form, so that this disposition of the sclerotic answers the same purpose in the cetacea for keeping the cornea flat, that the osseous plates serve in birds to keep the cornea convex. In both cases the sclerotic is modified in its density, so as to prevent the pressure of the fluids from rendering the eye spherical.

Thus then we observe, in comparing the magnitude of the eyeballs, that the organs of vision in the cetaceous mammalia are remarkably small when compared with those of fishes. The eyeball is here comparatively small, because the cetaceous animals are in a very different condition from that of fishes in the development of their great nervous centres. The

hemispheres of the brain are here largely developed, and occupy the whole cavity of the skull. Thus it is that we find both in the eyes and in the other organs of the senses, that they are developed in the inverse ratio of the development of those great centres of the nervous system. The organs of the senses are large in most of the inferior vertebrated animals, because the great centres of consciousness and perception are comparatively small.

Now there are intermediate forms of the eyes in mammalia betwixt those of cetacea and those of bats, which so closely approach to the prominent form of the eyeball in birds; for we find that the seals for instance, the walruses, the beavers, and otters, are more or less impelled to pass a considerable part of their life in an aquatic medium, through which they are to receive the rays of light in pursuing their prey. The seals pursue their prey, like the dolphins, under the surface of the water, and they have the eye intermediate in form and structure between that of the dolphins and that of the ordinary land mammalia. From the frequent temporary residence of those amphibious mammalia upon land, they require the eye to have this intermediate character, for they come to the shore to rear their young, and to suckle them in caves on the sea-shore; they come to bask in the sun upon the rocks in the summer season.

From this semi-aquatic form of the eyeball we pass to that of the land mammiferous animals, which are organized to receive the rays of light from the densest and heaviest stratum of the atmosphere, that in contact with the surface of the earth. In the ruminating and carnivorous quadrupeds we observe a difference in the disposition of some parts of the eye. We observe the large eyeballs in some of the ruminating and herbivorous animals to correspond with what we have seen of the imperfect development of their great nervous centres. The smaller size and higher development of that organ in the carnivorous quadrupeds correspond with the high development of the hemispheres of their brain. We observe, that in many of those ruminating quadrupeds where the head is inclined downwards to feed upon the grass or vegetables, they have the pupil of the eye lengthened in a transverse direction, which gives them a considerable extent of vision backwards, forwards, and inwards: thus they are enabled, by the lateral position of their large prominent eyes, which are so remarkable in those herbivorous quadrupeds, to perceive everything around them; so that they are made aware of the approach of danger from behind, as well as from before, while grazing on the pasture, or while pursued by their foes. Carnivorous mammalia exhibit also frequently a want of the circular form of the pupil: it appears frequently compressed, and lengthened vertically, or from above downwards. This is the position in which it is most advantageous for them to have it for extensive vision. Springing from a height, or from a low situation, upon their prey, or climbing, they require chiefly to see upwards and downwards. Some of the largest quadrupeds have very small eyes, as the whale, the elephant, and the rhinoceros.

The shining of the tapetum of the eye from the want of pigment, we perceive to be remarkable in many of the nocturnal predaceous quadrupeds, producing that shining and red appearance from the numerous bloodvessels spread over its surface. The eyes of quadrumana and of man are directed forwards to the same point, with their axes more nearly parallel, so that their visual perceptions are more distinct and more influential in the mind. The nocturnal lemurs,—like the owls, their companions of the night,—have their large eyeballs, and their large pupils, directed forwards, to receive as great an impression as possible from the scanty rays reflected from outward objects in the twilight or in the night. It is in man, however, that we find all the internal essential parts, and all the external accessary apparatus, of these complex optical instruments, the most exquisitely finished and adjusted; and it is chiefly through their perfection that he perceives and enjoys the sublime spectacle of nature.

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## CONTRIBUTIONS TO PATHOLOGY.

### No. VI.

*By* JOHN ALEXANDER, *M. D.*, *Manchester.*

### THE CEREBRAL PATHOLOGY OF CHILDREN.

(Concluded from page 385.)

As soon as a child presents any of the premonitory symptoms (before described) characteristic of impending hydrocephalus, minute inquiry should be instituted to determine, if possible, the *cause* which may have given rise to the disturbance of its health. The most obstinate attacks assuredly are referable to *family predisposition*, the influence of which upon cerebral disease was particularly alluded to in a former paper. On this subject, suffice it, therefore, further to remark, that Dr. Under-

wood observed six children, born of the same parents, die successively of acute hydrocephalus, at the age of two years; and Dr. Cheyne mentions a father so unfortunate as to lose no fewer than eleven children by this devastating malady. It is obvious that all means must fail in removing *this* cause of the disorder, but its known operation should lead to the early employment of energetic measures. Should *exposure to cold* have taken place, additional clothing, mild diluents, the warm-bath, and nauseating medicines, should be had recourse to, along with the remedies hereafter to be mentioned. If, on inquiry, it appears that the child's stomach has been disordered by *improper diet*, a sharp emetic will be found very useful, not from its merely unloading that important organ, but also by the equalization of the circulation succeeding to its administration. Provided *teething* be exciting the cerebral disturbance, free gingival scarification should occasionally be made, not generally, but over the teeth most advanced. The relief afforded by this simple measure, in many cases, can only be fully credited by those who are daily witnessing the mal effect of difficult dentition on the sensorial organs of the child. If *vermination* be discovered to be the foundation for the disorder and aggression, which (as shown in a past contribution on that prolific source of disease) it frequently is, anthelmintics must be had recourse to. Should *eruptions* have been injudiciously suppressed, others artificially excited must, as soon as feasible, be submitted.

The medicines, in the first stage of hydrocephalus, which I have found to answer best for preventing the full development of the malady, are purgatives, such as jalap, rhubarb, scammony, castor oil, and the neutral salts. But there is one additional remedy most especially to be recommended, and that is *calomel*, on the peculiar efficacy of which I cannot do better than quote the concurrent and emphatic testimony of Dr. Golis. "Of all the medicines which have been highly praised for the acute hydrocephalus, calomel is the most efficacious, in the turgescence, and the beginning of the inflammatory stage. I may almost call it a specific; it excites, as it were, an abdominal or intestinal ptyalism, loosens the coagulating power of the lymph, and lessens by the action which it excites in the alimentary canal the organs in the head; awakes more activity in the ends of the serous vessels, by which absorption is increased, and, according to my experience, makes all other purgatives for the most part needless." Whilst, however, appreciating, and equally with Dr. Golis, advocating this remedy, it is necessary to caution the junior practitioner against its too long continuance, or too free administration. Judiciously employed, calomel assuredly is the most powerful means we possess for combating the early stages of acute hydrocephalus, but when abused, as the remedy, in common with all others, occasionally is, its effects in this climate are sometimes deplorable. "In all things which our art contains," well remarked Dr. Mead, "there is nothing that does good but what may also do harm; and when any remedy is used *indiscriminately*, it must of necessity be very often used *improperly*." Calomel, then, must be administered cautiously in combination with the purgatives before alluded to. As adjuvant measures calculated to relieve the congested vessels of the brain, cold applications and vesicatories have long enjoyed considerable reputation. The former, even with the youngest, are agreeable to the feelings, diminish local heat, and lessen sanguineous determination. To the latter, however, viz., blisters as applicable to the head, on the first aggression of hydrocephalus, I should generally object; not, however, meaning to say, that in congestive cases, arising from suppressed scalp discharges, they are not appropriate remedies, but wishing to be understood as applying the remark to vesicating the head, as is too frequently done, under all circumstances, on the approach of the complaint. The local vascular excitement thus induced, previous to the cuticle being raised, I apprehend does more harm to the cerebral mass, at this *early* period, than good attends upon the partial abstraction of resulting fluid. Sub-acute forms of the malady do, however, occasionally present themselves, wherein the child's sanguiferous system is little affected. In these less common varieties of the disease, early blisters to the head are probably allowable; and, if kept permanently discharging, may constitute an important means of cure. To their application on the calves of the legs, round the arms, or on the sternal bone, in every variety, and at all periods of the complaint, there can be no objection, but otherwise, as they act usefully as derivants. To remove, then, all exciting causes; to administer smartly acting purgatives, especially calomel; to constantly apply cold lotions to the head, and an occasional blister to distant parts; appear to the present writer the most appropriate means of treating the premonitory or congestive stage of hydrocephalus. And now to its second period.

Considering that when acute hydrocephalus is fairly set in, in other words, when

the disease's presence is decidedly indicated by those various morbid phenomena which have been detailed as the symptoms of the second or confirmed stage, that we have neither more or less than *infantile cerebral inflammation* to treat, the remedies to be employed naturally suggest themselves on the known principles of therapeutical science. Before, however, individually alluding to them, it may with propriety be premised, that as hydrocephalic inflammation is a *modified one*, so must the application of curative means, in reference to particular cases, be also modified; and, moreover, that if the present writer errs in estimating the comparative value of any of the agents alluded to, it is not from lack of opportunity whereby to have formed a better opinion, or the absence of a desire impartially to have done so.

Blood-letting is the most powerful means we possess of controlling hydrocephalus in the second stage. From its marked influences in those cases where its employment has been well timed, many practitioners have been led to imagine it applicable to each and every variety of the disorder; whilst others, who have merely seen the remedy misapplied, both as to time and extent, not merely consider its use unnecessary, but actually prejudicial in a disease presumed to be uncontrollable by ordinary antiphlogistic means. The truth appears to be, that blood-letting is superfluous, generally speaking, in the turgescent stage, and positively injurious after effusion has ensued; but in the intermediate stage now under consideration, most valuable. For children under five years of age, local blood-letting I consider preferable to general; and the sites most favourable for its employment, behind the ears, or on the temples, as at these parts pressure easily regulates the quantity to be taken. The first abstraction should be a free one; large, of course, relatively to the age of the suffering child, as reiterated observation and the testimony of most practical writers on the complaint equally tend to prove, that one bleeding to a certain extent, will prove infinitely more efficient than the same abstraction of blood at two or more different periods. In some cases the inflammatory stage of hydrocephalus comes on slowly and insidiously, in others quickly and tumultuously; some children are full-blooded, and others exsanguineous; hence it is impossible, or rather would be highly improper, for any writer to specify a given quantity of blood as the appropriate measure to be taken, or to lay down the number of times the operation must be repeated. I have occasionally succeeded with once bleeding, at other times have had to bleed a fourth and fifth time. These important points can only be determined by the intuitive judgment of the medical attendant. It may, however, be generally remarked that we had better over-bleed than take too little, as nature may repair one error in the former case, whilst disease would baffle our every remedy in the latter. Nauseating medicines may be administered with considerable advantage during the inflammatory stage. They lessen the excitability of the heart, at the same time that by their sudorific qualities they diminish the mass of circulating fluid, thus in a double way relieving the labouring vessels of the head. Tartarized antimony and ipecacuanha are those generally had recourse to. In the case of infants, the latter, under the form of powder, is the preferable remedy; whilst for those more advanced in life, the antimony, in the vinous form, is generally preferred. These medicines have, I apprehend, a third beneficial effect, by aiding the operation of purgatives, which are never to be overlooked in this complaint, and are particularly required in the second stage. The remedies of this last-mentioned class, viz. purgatives, adapted for the period we are considering, are those before mentioned in treating of the turgescent stage, to which with advantage may be added, aloetic enemata, if the bowels are particularly torpid, or the stomach refuse medicine,—two very common occurrences. If the practitioner has not been summoned to the sick child until this stage of the malady, no time should be lost in delaying the employment of mercury, as, after blood-letting, this remedy is most important. On the other hand, if it has been administered previously to the setting in of the inflammatory symptoms, its use must be steadily persevered in. Those who have seen much of the disorders of children well know, that their most anxious endeavours to control the violence or check the progress of infantile disease, occasionally appear altogether fruitless. Thus, the inflammatory symptoms of hydrocephalus may have been promptly met by repeated abstractions of blood, by the administration of active aperients, the depressing operation of nauseants, and the alterative influence of mercurials, and yet the child's vascular system shall continue excited, the head be still incessantly rolled about, and the characteristic scream be still heard. At such a time, in practice but too frequent, it has been my custom to administer opium, under the form of Dover's powder or Battley's drop, with the happiest effects; indeed it is not affirming too much to state,

that with children *so circumstanced*, a full opiate occasionally acts like a charm. The heart's action abates, the cerebro-nervous system is soothed, the harassed child, after perhaps three or four wakeful nights, drops into a slumber, and awakes in the morning refreshed,—saved! Having witnessed this desirable change repeatedly, I cannot understand how Dr. Clarke, experienced as he doubtless was, acquired his antipathy to the use of opiates in infantile disorders. It is true they are frequently abused, still more frequently misused; but of what remedial agent can we not affirm the same? Every tyro is acquainted with the physical operation of opium; but few, very few, perhaps, study sufficiently the *timing* its administration.

Many experienced practitioners entertain the opinion, that as soon as evidence of effusion having taken place exists, the treatment of hydrocephalus should be merely palliative, and that all remedial measures, in a curative point of view, being useless, our sole object should be to avoid everything calculated to disturb the little sufferer. Having, in a preceding paper, alluded to the extreme difficulty of attaining a *conclusive* diagnosis as to the exact cerebral status; having asserted the occasional curative influence of nature and art upon even admitted effusion, and differing *toto cœlo* with the advocates of the palliative plan, even on the very ground alleged by themselves of humanity, I shall venture to submit some measures which experience has shown me to be not entirely unworthy of trial even at the eleventh hour. For cerebral effusion, then, no remedies equal, in my opinion, foxglove and mercury; the first in the form of tincture, and the latter under that of ointment. To comment on the virtues of so universally known a medicine as digitalis, might possibly be thought superfluous; but treating of it relatively to hydrocephalus, it may be allowable to record my additional testimony in its favour. By its action on the kidneys, digitalis relieves the vascular system without impairing the animal powers, as bloodletting would do; by its singularly sedative influence on the nervous system generally, and brain more particularly, it diminishes the number and lessens the violence of the convulsions; and, lastly, I apprehend, it exerts a beneficial influence, by aiding the operation of mercury,—not to mention its preventing those shrilly screams and pitiful moanings so distressing to a mother's ear. The mercury is best introduced by inunction on the axillæ, or at the inside of the thighs, or in the form of an unguent to the scalp. I do not see myself the particular advantage of the last-mentioned plan, highly lauded as it has been by some commentators on the complaint; at the same time, in these desperate cases, provided we gain our object, continued gentle ptyalism, it probably matters little by what means. Enemata, either sedative or aperient (and of the second class the terebinthinate), as the case may demand, are suitable remedies for the effusive stage, as it rarely happens that the child will or can take much medicine by the mouth; nor, indeed, for regulating the first passages is it generally desirable, when the former means of relief are easily had recourse to. The whole of the head should present a vesicated appearance, and the blistered surface be kept discharging by stimulant applications; such as the resin or savine cerates, or the mercurial ointment before mentioned. Setons in the neck have been highly lauded; but not having often used them, I shall only remark that they are derivants best adapted, in the opinion of the present writer, to the complaint in a chronic form. When, however, the practitioner has succeeded in removing an attack of acute hydrocephalus, they may be very useful in preventing a relapse. Should the child be able to swallow, it occasionally evidences a desire for food. When this is the case, nutritives, as beef-tea, veal broth, or well-made jelly, in small quantity, and often repeated, should be allowed; and if the prostration of strength be great, spiced wines may be occasionally administered. "Many children," remarked the lamented Armstrong, "are lost, by *continuing* an active treatment after the original disorder has been removed, another, in truth, being thus set up and supported." With a view of diminishing the irritability attendant upon weakness, camphor, valerian, and bark, will be found very useful to a child recovering from an hydrocephalic attack; as also will the tincture of iodine. The acknowledged efficacy of the last-mentioned medicine in combating strumous affections, first led me to employ it; and I can with truth say, that my individual experience of it as a tonic for *children*, more than substantiates its reputed character. To conclude, in the great majority of confirmed cases of hydrocephalus, all remedies fail; but in a few our endeavours are crowned with success—hence we should never despair. "On reviewing our conduct in these trying scenes," to quote the language of Lawrence, "when all our efforts have been unavailing, the reflection that nothing has been omitted which the resources of our art rendered possible,—nothing neglected which more diligent study and more active pursuit of knowledge could

have supplied, will be a support and a consolation. What must be the feelings of those to whom this consolation is denied! who feel a doubt whether the fatal event has merely exemplified the limited efficacy of art, or has been owing to their own ignorance or incompetence!"

## CRYING OF THE FŒTUS IN UTERO.

*To the Editor of* THE LANCET.

SIR,—I beg to solicit the publication of the following case, which I presume you will deem of sufficient importance to occupy a place in your valuable periodical.

I was some time since called to the wife of a blacksmith at Preston, about two miles from my residence, who was in labour with her tenth child. I had attended her in several former confinements, and she had always had quick deliveries, as the pelvis was unusually capacious, and her pains were active. After I had been a few minutes in the room, I proposed and made an examination, and found the face presenting, and making its descent into the pelvis, the chin resting on the os pubis.

A few strong pains succeeded, and I again examined to ascertain if the face had made any advance. I found it had done so, and that it was pressing on the perineum; but in making this examination, my finger passed freely into the mouth of the child, and it immediately gave a convulsive sob, and cried aloud to the great terror of the mother and of the by-standers, when they found that it was still in the womb. I had great difficulty in calming the agitation produced by this event upon the woman, whose pains were suspended for nearly an hour, but I eventually succeeded by explaining that the face was presenting, and that from the circumstance of my having passed my finger into the mouth, the air had gained admission and enabled the child to breathe; this, with a little spirit and water, and a dose of the ergot of rye, succeeded in bringing on the uterine action, and, after two pains, the child was expelled alive and well, at least one hour after it had respired and cried in the womb. I am not aware that any instance similar to the above is on record, but I consider it one of consequence as a physiological and medico-legal point, and one which will throw additional difficulties in the way of that clear proof which is so desirable in cases of infanticide. I remain, Sir,

Your faithful and obedient servant,

WILLIAM TOMKINS, Surg.

Yeovil, July 8th, 1834.

## RELAXATION OF THE UTERUS, DURING LABOUR,

BY ARTIFICIAL MEANS.

*To the Editor of* THE LANCET.

SIR,—Observing, in THE LANCET of the 31st May, a paper by Doctor Shanahan respecting the use of tartar emetic as a relaxant in cases of rigidity of the os uteri during protracted labours, I wish to direct the attention of your readers to a few *extracts* from a work published by Sir James Murray, when I was his pupil, entitled a "Dissertation on the Influence of Temperature, Diluents, &c."* In the appendix to that book the same principle is inculcated, and, to my knowledge, had been acted upon eighteen years previous to that time by Dr. Murray,—a fact of which Dr. Macdonnel of Belfast and others of his medical friends are well aware. The agent, however, more lately employed by Dr. Murray, is not tartar emetic, but ipecacuanha, for, on comparative trials, he found the latter much more mild, safe, and manageable. The sedative action of tartar emetic, its operation being sometimes too severe, and continuing after the relaxation was effected, and even after delivery, rendered it a much less desirable remedy. It was also found objectionable from its action on the bowels. It is, however, but just to Dr. Shanahan to state that he disclaims having seen the work above alluded to, prior to the publication of his paper in THE LANCET. I have the honour to be, Sir,

Your most obedient servant,

CHARLES CLARKE.

Great Ship-Street, Dublin,
June 28th, 1834.

*Appendix*, page 1.—"It is eighteen years since I began to state to my medical friends that most cases of difficult or tedious labour, not depending on malformation or disproportion, were retarded by some want of consent between the muscular fibres, and by the absence of easy dilatability and relaxation; and that the business of the practitioner almost in all the cases is, *to diminish resistance—not to increase power*. Such want of consent in the action of muscular and other fibres is observed to take place between the vesica urinaria, and its neck in retention of urine. In such cases the bougie, if requisite, should be the only instrument used, *which being very slowly withdrawn* is followed by the urine, during the production of the

* Longman and Co., 1829.

natural consent of action between the urethra, vesica, and its sphincter. Similar irregular contractions and want of unison take place during parturition, which are in many instances productive of delay.

"Reflection on, and experience of, the above circumstances, led me to the following consideration and conclusions: That by proper management we may diminish or remove the principal cause of resistance,—that it is *by lessening such resistance we do good, and not by attempting to increase the expulsive powers.* That by imitating nature as nearly as possible, we may become possessed of certain means of removing the obstruction which the tissues present; and thus that we may approximate the nature of labours in our climate more closely to that process in other countries where obstacles arise only from disease, deformity, or particular conformation, and not from the tone or disposition of the animal fibres.

"I will only observe in this place, that our endeavours should be to produce *relaxation* without *exhaustion*; to bring the constitution and muscular tone under the same kind of influence experienced after sickness or residence in warm climates, and to produce effects similar to those which nature induces in other parts of the globe.

"In lingering labours, the necessity of producing relaxation was long apparent to almost every practitioner. It was found that raising the patient to the erect position, and bleeding ad deliquium, favoured the relaxation of the resisting fibres forming the abdominal ring, and the consequent reduction of hernial tumours. The same means have been used in contractile or spasmodic action of the os uteri, and undoubtedly with considerable success. This practice was greatly recommended by the distinguished Professor of Midwifery in 1807-8, at Edinburgh. The effects of venesection in removing the contractile irritability of the uterus and irregular muscular action are, no doubt, obvious and speedy. During the first five years of my practice, I repeatedly had recourse to venesection as a relaxant, and was much pleased with its beneficial consequences, both in facilitating the delivery, and in relieving the excruciating pains which irregular uterine contraction never fails to occasion. The beneficial consequences of bleeding were also often apparent in the speedy recovery of the patient, and in the prevention of fever, headach, convulsions, and irritation. It failed, however, sometimes to produce the expected dilatability of the passage. In a few instances it caused great debility, and on two occasions I fear it was decidedly injurious.

"The internal exhibition of opium is also much used; it is particularly recommended in removing and suspending false pains and irritability, and affording ease and repose until the accession of real labour. To produce this effect, however, it must be given in a full dose, for if administered in quantities insufficient to allay the irregular spasmodic pains, it only adds to the irritation it was meant to remove. This should be particularly attended to where the os uteri becomes hot, throbbing, and inflamed.

"The relief often succeeding *nausea* and even *vomiting* in labour, suggested the practice of bringing them on by art. But their employment amongst ignorant persons might be productive of much harm, and, therefore, the prejudice against the use of nauseating medicine is strong and prevalent. The very experienced Dr. Hamilton objects to their use lest a blood-vessel might be ruptured, though we seldom find that such a circumstance takes place in vomiting where no medicine is given. *Where everything is in regular progress, it would be inhuman to interfere; it is only where necessity exists, and when a proper time is chosen, and early attended to, that any medical interference can be at all admissible.*

"I have for some time been able to form an opinion, even on conversing with the patient and friends, whether I may expect the uterus disposed to dilate readily or not. For this purpose I endeavour to obtain certain information respecting the previous history, disposition, and temperament, whether the menses and even the digestive organs have been regular. If the menstruation have been commonly irregular, deficient in quantity, and attended at each period with pains, irritability, and nervous excitements, I have then in most cases found the uterine action irregular during labour, the os tincæ rigid, the woman liable to cold shiverings, and to long-protracted, gnawing, unprofitable pains.

"On carefully learning the previous state of the patient, and ascertaining that rigidity or spasm of the os uteri opposes the completion of the first stage, and that no disease or malformation pre-exist, endeavours have reasonably enough been made to bring a relaxation, both general and local, to connect the constitutional and uterine dispositions to remove spasm, and to accelerate the action of the diaphragm and abdominal muscles. How does nature produce these valuable desiderata in lingering labours? Where she acts in a regular manner, it is partly by the assistance of the propelling action of VOMITING, but principally by the di-

lating effects of NAUSEA; where the uniform consent obtains between the uterus and stomach, vomiting is occasioned, and then the union of action between those organs is followed by the consent of disposition with the entire system. *By vomiting the labour is very much forwarded; every fit of vomiting, according to popular observations, doing more service than several pains, partly by the increased pressure, and partly by the succeeding relaxation.*

"Now, when nature produces these happy effects, it is well; but where that strict and intimate connexion does not exist between the stomach, nerves, and uterus, then I would certainly endeavour to imitate nature, and to produce it by art. If we alter the condition of one organ, we change the state of the other; whatever affects the stomach will, by a sympathy no way difficult to comprehend, equally extend to the womb."

Cases of relaxation induced by other means, such as incidental salivation, warm temperature, smoking, &c., are related in the work alluded to. The following example of the effects of vomiting is given in the *appendix*, page 17.

"Mrs. Blair had two children, after most severe and tedious labour; in both forceps had been employed. She suspected malformation of the pelvis, and was so much alarmed at the approach of her third labour, that she resolved to go to Glasgow, where she had a daughter. I then saw her for the first time; she consulted me on the propriety of going, which I did not discourage. On the night she sailed she became sea sick, and vomited freely repeatedly, which she had not done in her former labours; she had a few pains, but not like those to which she had been formerly subject; the nausea and sickness continued, during which her child was born to her great astonishment and delight.

"It is not a little curious, that though the valuable effects of relaxation were well known to every observer of the process of labours, pleasing to the patient, and encouraging to the attendants, yet that, as far as I can find, these important advantages are not sufficiently appreciated in the obstetric works of our authors. Where I have not had a sufficiently early opportunity of employing the mode alluded to (page 6, *appendix*), *of altering the tonicity of the simple solids, and relaxing their rigidity, whether hereditary or acquired, by the long-continued imbibition of tepid watery vapour*; or where the patient or friends have rejected the trial, or declined to persevere in the use of *judicious fomentations diffused from antispasmodic and emollient decoctions*; then I have occasional recourse to such temporary means of promoting *artificial relaxation* as the circumstances and shortness of time permit me to recommend.

"In such cases I endeavour to assist nature, and to bring about the agency which, in her aberrations, she may postpone or omit. When nothing indicates the impropriety of the practice, and true labour has continued much longer than usual, then I have seen it useful to begin the use of the *vin. ipecacuanhæ, parvis et repetitis dosibus, primo ad nauseam, et aliquando ad vomitionem leniter ciendam.* I certainly observed that, as the pores are opened by this remedy, the patients are less liable to febrile or ephemeral complaints after their accouchments."—*Appendix*, page 18.

This *appendix* contains remarks on other and more durable means of relaxation, such as altered temperature, fomentations, &c.; but the above extracts on the point under consideration are sufficient to show the theory and practice, so far as *emetics* are concerned. C. C.

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## MR. LISTON'S LATE OPERATION OF TRACHEOTOMY.

*To the Editor of* THE LANCET.

SIR,—Since I communicated to you the particulars of the case in which a foreign body was removed from the bronchus (see LANCET, page 419), Mr. Liston has been favoured by a letter from Dr. Adams (the learned translator of "Paulus Ægineta"), under whose charge the patient was for several months. After detailing the history of the case as already related, he states that, as the symptoms were at that time (when she came under his charge) by no means urgent, and as she represented the bone to be a small object, I thought it possible that it might be brought up by coughing (of which I knew a singular case about six years ago), or that the unpleasant effects produced by its presence in the respiratory passages might gradually subside. I therefore resolved to try the effect of allaying irritation on general principles, but from the first I looked upon it as a possible contingency that the operation of bronchotomy might be necessary. Hence I find that I have erred in my statement of the opinion of the surgeons in the country as to the nature of the case, and must beg that you will insert this note to counteract an error into which I was led by the patient in drawing up the history of the case. I am, Sir, your obedient servant,

JAMES DUNCAN.

Edinburgh, July 3rd, 1834.

# RECORD

OF THE

## CONCOURS HELD AT PARIS,

IN JUNE 1834,

*To supply the Vacancy in the Chair of*

## *CLINICAL SURGERY,*

OCCASIONED BY THE DEATH OF BARON BOYER.

(Continued from page 506.)

## *LECTURE OF M. VELPEAU.**

*First Patient.*—TUMOUR, FROM ENGORGEMENT OF CERVICAL LYMPHATIC GANGLIA.

On presenting himself in the amphitheatre, M. VELPEAU was received with an applause little inferior to that which preceded the lecture of M. LISFRANC; he seemed much affected by the marks of approbation so universally displayed, and said:—

Gentlemen,—The flattering manner in which you have received me, at once encourages me in the highest degree and afflicts me; I am flattered by the proofs of an affection so honourable and encouraging, but on the other hand I fear that your applause indicates the expectation of something on my part which I may not be able to realize. However, I shall leave no effort untried to justify your favour.

Our two patients, Gentlemen, are affected with diseases of a very different nature. The first has a tumour above the clavicle; the patient is by trade a tailor, and ordinarily enjoyed good health; the disease, it appears, first manifested itself so far back as five or six years ago; in the beginning it was not larger than a small nut, and remained stationary for a considerable period; during many years there was no pain in the part, nor was it accompanied with any inconvenience or derangement of the health, but within the last five or six months it has rapidly enlarged, and has now attained the size of one's fist; since the growth of the tumour, certain accidents not before noticed have appeared; the patient experienced first some lancinating pains in the tumour itself, which then extended to the shoulder and arm, but were principally felt in the axilla; from this point they soon extended over the whole body. During the progress of the tumour, leeches were applied on and about the part; it was also covered with emollient cataplasms; these means seem to have had some effect; the tumour lost a little of its size, and the pains disappeared in the order in which they came on; first quitting the body, then the arm and shoulder, and finally the tumour.

On examining the patient, we found a tumour occupying the supra-clavicular space on the left side; it was unequal and hard; immoveable also, for it adhered firmly to the clavicle and superior surface of the chest, and seemed even to be prolonged a little downwards below the clavicle into the cavity of the thorax; on the inner side of the tumour we could feel distinctly the pulsation of the artery, and the sterno-cleido-mastoid muscle was confounded with, and lost on, its anterior surface. The integuments covering the tumour were very slightly altered; in some parts they are of a dark colour, and traversed by large veins, but otherwise perfectly healthy. The tumour has not given rise to any difficulty of respiration; there is no paralysis of the superior extremity on the left side; nor did we find any proof of the patient's being affected with any organic affection.

Now what is the nature of the tumour in the present case? This, Gentlemen, is a very embarrassing question for the surgeon to resolve, on account of the immense variety of tumours which may exist in this region, and on account of the facility which it presents for the development of many swellings very difficult to distinguish. In this respect the supra-clavicular space resembles the groin, where you know you may have a variety of tumours of every description. Hence my diagnosis in the present instance must be very guarded; in short, I may say that it is impossible to decide with absolute certainty on the nature of the tumour. However, let us try to discover as much of its nature as possible, and arrive at something precise. (Here the speaker passed successively in review all the tumours which may be developed in this region, examined each in comparison with the case before him, and concluded, though not in a very decided tone, that the tumour arose from an engorgement of the lymphatic ganglia of the neck.)

The tumour with which our patient is affected, might be an aneurysm of the subclavian artery; of the carotid artery; of the axillary; of the vertebral; in a word, of any of the vessels at the summit of the chest; it might be produced by an osseous excrescence shooting up from the cervical vertebræ; a phlegmonous tumour of the cellular tissue in this region would produce a swelling very similar; we might have an abscess there, a tubercular deposit, an

* Surgeon to the hospital of La Pitie.

encysted tumour, a goitre, &c. All these different tumours may exist above the clavicle, where we have an assemblage of very different tissues capable of giving rise to a great variety of morbid productions and alterations. Now, which of these tumours exists in the present case? Again I must repeat that the diagnosis is difficult, that it cannot be given with any certainty. The tumour is not an aneurysm of any of the large vessels arising from the arch of the aorta; for the patient never experienced any sensation of pulsation about the part, and on the most careful examination we were unable to discover any pulsation ourselves; besides, the tumour, as we before remarked, is unequal and hard, not giving the feel of an aneurysm. It is not an exostosis of the first rib, nor an osseous growth from the cervical vertebræ; for it does not present that character of density which distinguishes osseous tumours. Is it a tumour of the thyroid gland? The thyroid body may be the seat of various tumours, and may sometimes be prolonged downwards or laterally, so as to produce a large tumefaction in a part of the neck where it is not ordinarily sound; the whole gland, for example, may be enlarged, giving rise to goitre; it may present various encysted tumours, &c.; but in the present case we can trace the limits of the thyroid body, which is healthy, and does not exceed its usual volume.

Is it an abscess? Deep-seated abscesses often give rise to tumours, the nature of which remains for a long time doubtful; this, for instance, might be a cold abscess as it is called; but if we look for the symptoms which in most instances accompany the collection of purulent matter, we do not find any.

It might be an encysted tumour: we often find encysted tumours developed in certain regions of the body (of which this forms one) containing a great variety of materials: sometimes they are filled with nothing but a gelatinous kind of stuff; at other times they are steatomatous, or the contents may be mixed; in short the time does not permit even an enumeration of them; however, I may notice briefly a case which I saw at the hospital St. Antoine:—A woman was affected with a large tumour occupying the cervical region; it was soft, and was mistaken for an abscess; an incision was made into the tumour, and gave exit to some pus coloured with blood; the patient died, and on examination we found an enormous cyst, descending underneath the clavicle, and compressing the lungs, which were pushed down by it into the thorax; it was perfectly isolated in its whole extent. I do not think our patient is affected with an encysted tumour. There remains then the lymphatic tumour; that is, a tumour of the lymphatic ganglia, and it is to this that I would attribute the disease under which our patient labours; the cervical ganglia, and perhaps the brachial, are engorged, and produce the uneven hard swelling which we have noticed; the pain which the patient has experienced in the upper extremity may be readily explained by the pressure of the enlarged glands on the nerves of the cervical plexus, or by simple irritation. The darting pains in the tumour, its inequality of surface, and the colour of the skin, might give rise to the idea of cancer. The disease may in the end become cancerous; this is by no means improbable, but I do not think that we have any reason for attributing to it at present a cancerous nature; in the first place, the manner in which this tumour has been developed differs essentially from that which attends the formation of cancer; besides, this latter affection rarely commences primitively in the lymphatic ganglia; and, finally, we do not find any trace of cancerous disease in the other regions, or in the patient's constitution.

As to the prognosis, I consider the patient to be in a very dangerous state. If the tumour continues to enlarge, as it probably will do, the lungs cannot fail to be compressed and acted on in a pernicious manner; the respiration will become impeded; the important nerves, situated in the neighbourhood of the tumour, will be compressed, and divers accidents thus produced; finally, the increase of the tumour may give rise to the absorption of the cervical vertebræ, and death will speedily ensue. Had the patient addressed himself in an early stage of the disease to a surgeon, when the tumour was still unattached, it might have been removed; but, in the present state of things, an operation is out of the question; the part to be removed is too closely surrounded by large vessels and nerves, and, moreover, it seems to dip, we cannot say how far, into the cavity of the thorax. There remains only a feeble change for the patient; the tumour may perhaps undergo a partial resolution, and remain stationary for many years, but this I fear is not to be expected. The indications of treatment are exceedingly simple, and I have nothing to suggest in addition to what has been already done. Blood has been abstracted locally from the neighbourhood of the tumour, and this has been attended with some benefit; the pains have disappeared; a discutient ointment, probably containing iodine, has also been rubbed over the

surface of the tumour; these means may be continued, and its progress watched, to palliate any accidents which may subsequently appear, as we cannot look for a radical cure.

(*To be continued.*)

## THE LANCET.

*London, Saturday, July* 19, 1834.

When the surgeons of the Bristol Infirmary addressed a Memorial to the Parliamentary Committee on the subject of the monopoly, which had been created in favour of the London hospitals by the "regulations" of the officers of those hospitals acting in the capacity of councillors of that College, the gentlemen of the Bristol Institution embraced a favourable opportunity of supporting the interests of the public, as well as of upholding the dignity of the mass of the profession. What is there, we would ask, in connexion with the London hospitals, which renders those institutions the best-qualified schools for furnishing the means of instruction to medical students? The surgeons of the Bristol Infirmary were not content with asking this question with candour, and in replying to it with boldness, but they advanced a step farther, and referred to certain obvious *dis*advantages connected with the prosecution of studies in the metropolis, which are wholly unknown in most of our country towns, and are only productive of slight inconveniences in other populous places situated at a distance from London. It is unnecessary that we should go over this ground anew, as it has been often occupied in the pages of this journal. Indeed, the readers of The Lancet know full well that the track was first beaten out by this publication; but we no longer act singly in the open path which is directed against the medical monopolists, and which, consequently, inclines to a direction favourable to the discovery of a scene of justice.

It is extraordinary that the surgeons of the country hospitals should for so long a period have submitted, without opposition, to the odious mandates of the College in Lincoln's-Inn Fields; and it can only be explained or accounted for, by believing that the officers of our medical institutions generally are influenced in their conduct and are united in their interests by a spirit of clanship, which pervades every set of those functionaries. Hospital physicians and surgeons are too much in the habit of considering that they belong to a distinct, or to a superior, class of practitioners, to act in accordance with the feelings, or the implied rights of those members of the profession, whom they are disposed to regard as occupying an inferior station in society. Accordingly it has happened, that some of the hospital surgeons of the country institutions have acquiesced in, if they have not actually supported by open approval, the oppressive "regulations" which from time to time have been issued by the Hospital surgeons of London, sitting in the capacity of councillors of the College—thus placed at the head of the surgical part of the profession by the charter which received the signature of the too-supple hand of his late Majesty George the Third. Strongly impressed with a knowledge of these circumstances, the profession read with feelings of surprise the Memorial of the Bristol Surgeons, containing distinct charges of unfair dealing, and gross partiality, against the Council of the London College of Surgeons. On the contrary, the approval of the conduct of the Council by the surgeons of the Birmingham Hospital has excited no surprise whatever; because a concurrence in that system of monopoly which was long ago created, and which has been for such a length

of time supported by the rulers of the institution in Lincoln's-Inn Fields, was a circumstance which experience had taught the profession to expect would characterize the conduct of a large numerical proportion of the officers of the County Medical Establishments. Instructed then, as we have been, by the events of some years past, to look for a continuance of that truckling submission which has already signalized the demeanour of many surgeons "in office" to the official ordinances of the incorporated monopolists, we were most agreeably surprised when we perused the memorial that had been addressed by the Surgeons of the Bristol Infirmary to the Medical Committee of the House of Commons. We were neither, however, astonished nor dissatisfied on reading the replication of the Surgeons of the Birmingham Hospital, wherein they spoke disparagingly of the opportunities afforded by their own institution, as compared with the benefits conferred by the hospitals of the metropolis: but we have felt both surprise and gratification on examining a statement of the reasons which have induced the PHYSICIANS of the Birmingham General Hospital to "believe that the opportunities afforded for medical and surgical education by that institution are "*equal* to those of the London hospitals." The following is the communication which has been addressed by those gentlemen to the Members of the Parliamentary Committee:—

"The physicians of the Birmingham General Hospital, believing that the opportunities afforded for medical and surgical education by that institution are equal to those of the London hospitals, submit the following reasons in support of their opinion:—

"1. The Birmingham Hospital, containing 180 beds, is as large as most of the London hospitals.

"2. The manufactories of the town and the mining operations of its neighbourhood afford a large number of accidents, almost all of which are brought to the Birmingham hospital.

"3. This hospital being open to patients from any distance, and not appropriated exclusively to the use of inhabitants of the town, contains cases of all the diseases prevailing in the midland counties, of which Birmingham may be considered the centre.

"4. *Clinical* lectures and instructions are given by the physicians, who regularly attend three times a week, and oftener when the cases are urgent.

"5. In order to enforce the attendance of pupils, they are required to enter their names in a book provided for that purpose; and certificates are not granted to them unless this regulation shall have been strictly complied with.

"6. Medical cases are accurately recorded for the use of the students; and the bodies of all patients, medical or surgical, who may die in the hospital (if permitted) are examined in the presence of, at least, one of the medical officers.

"7. All accidents and *urgent medical cases* are admitted *at any hour* of the day or night *without* a ticket of recommendation being demanded.

"8. The physicians of the Birmingham General Hospital are of opinion that Provincial Medical and Surgical Schools, *together with* the opportunities for instruction afforded by *such* institutions as the *Birmingham General Hospital*, give to the student a complete knowledge of the prinples and practice of his profession, which is further *guaranteed* to the PUBLIC by the subsequent examinations in London.

"(Signed)
"GEO. EDW. MALE, JAS. JOHNSTONE,
JOHN K. BOOTH, JOHN ECCLES,
"Physicians to the General Hospital.

"Birmingham, June 28, 1834."

Although this is a brief statement, it is an important one, and is well calculated to produce a sensation of shame in the minds of the officers of the *London* Hospitals. In the first place, we observe that the Birmingham General Hospital contains 180 beds; and it is well known that those beds are invariably occupied by patients who belong not only to Birmingham, but to places remote from that important town. These facts justify the remarks made in the foregoing statement, that the hospital may be said to represent correct examples of those diseases which usually occur in the midland counties. Thus this hospital,

which has been virtually proscribed by the by-laws of the College of Surgeons, contains one hundred and eighty beds, whereas one of the "recognised" institutions,—the Westminster Hospital, contained, until recently, *less than one hundred beds*; but that hospital possesses this advantage over the institution in the country—the *four* surgeons who hold office in it occupy seats at the board of that Council which concocted the regulation in favour of its own monopoly. If we had but this one fact in proof of the pernicious authority which can be exercised under the sanction of the charter of the College of Surgeons, it would be sufficient to sustain and justify a demand for making an alteration in our system of medical government. What find we in the fifth paragraph? Why, that a book is kept open for receiving the inscriptions of students, and it is observed that the certificates are withheld, if the attendance be not regularly maintained. In which of the hospitals of *London* are the inscriptions of students taken? Such a thing is not to be found. But what do we remark in paragraph the sixth? That records of the cases are kept for the use of the students, and that, when permission can be obtained to examine the bodies, those examinations are "always made in "the presence of one of the medical offi- "cers." Here are two circumstances in the highest degree favourable to the attainment of knowledge by the student—two immense advantages presented in the management of this proscribed institution, neither of which is offered by a single one of the seven favoured hospitals of this metropolis. We know that there are three or four physicians and surgeons who make notes of their cases for the use of the students, and who superintend, occasionally, the inspection of bodies in the dead-houses; but in this respect they accord not with the system of medical government observed in our hospitals, but deviate from it in a mode of conduct as beneficial as it is peculiar.

The pertinacity which marks the adherence of the Council of the College, and of their truckling "official" supporters in and out of London, to the existing order of things, is a sufficient illustration of the advantages which *they* derive from the present state of medical law. But is it possible that the health of the community is to be confided to the care of gangs of conceited mercenaries? Whatever may be the schemes of the corruptionists with a view to their own security in the positions which they improperly occupy, we venture to predict that their career in corporate iniquity is drawing towards its close. The fetters, which they have imposed on private teachers, will shortly be broken asunder, and medical education will receive that prodigious impulse which can be given in no other mode whatever, than by rendering the cultivators of medical science perfectly free to act in accordance with those plans and principles which have received the all-important sanction of experience.

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THE meetings of the Dublin College of Surgeons increase in interest as they proceed in their deliberations; the body, indeed, would seem resolved on preserving to the last that consistency in error which has led them into so many ludicrous embarrassments of late. Our readers will recollect, that we announced some time ago the addition of Messrs. JACOB and HARRISON to the London deputation, at an expense of five guineas a day, and by an act of the College, which by many was considered to have been illegal. The manner in which these gentlemen (courtesy is one of the cardinal virtues in the Dublin College of Surgeons!) were smuggled into the receipt of thirty-five guineas a week each, and the personal objections to

their mission at all, justly excited in the body a reaction, in which we suspect, indeed, that men of all parties participated. The appointment of six individuals at so extravagant an expense on the part of the College, without one of these being nominated by the private teachers, together with the suspicion that the latter would depute some person of their own body to represent their interests in the medical Committee, swelled the ranks of the opposition into a formidable array of numbers. In this state of things a requisition, numerously signed, and calling on the president to convene a meeting of the College for the purpose of appointing, on the same footing as the other members of the deputation, a representative of the private schools, was presented to Mr. KIRBY. What was to be done? Here was a dilemma, either horn of which was equally fatal to the diplomacy of the school-men of Stephen's Green and of Park Street. "We will recal HARRISON and JACOB," said one, "rather than Mr. ELLIS should be added to the deputation."—"We will send over some non-entity, whose want of information and independence will prevent him from doing mischief," cried another. Such overtures were accordingly made, and, we are happy to add, were repudiated with the contempt which they deserved. But to the result. The parties met; the opposition presented a long and lowering front. The President announced the purpose for which the College met; Mr. CUSACK immediately rose, and, to the astonishment of all those who were not conversant with the depth of that gentleman's political sagacity, proposed Mr. ELLIS, of the Peter Street School, as the fittest and most proper person to represent the interests of the private schools before the Medical Committee of the House of Commons! Mr. PORTER alone, whose virulent prejudices are a subject of pity rather than of reprobation, protested against a proposal, which was immediately ratified by the College without being put to the ballot.

We need scarcely point out in detail the policy of Mr. CUSACK's conduct on this occasion. Had not his presence of mind prevented it, his less politic associates would have imprudently incurred the odium of illiberality and the ridicule of a defeat, by submitting the question to the ordeal of the ballot. But the petty considerations of persons and things never stand in the way of Mr. CUSACK's endeavours to attain his objects; and what in this instance he could not withhold, he wisely conceded with the semblance of generosity. We willingly accord to his generalship the tribute of our admiration: *he knows* we should not be warranted in giving him credit for more. We hope Mr. ELLIS will not make a mistake the other way. Had he been appointed by the opposition alone, we should deem this intimation unnecessary; but since the enemy has condescended to contribute to his appointment, we take this early opportunity of warning him against the emollient influence of patronage, and the seductions of "gratitude." Let him not, therefore, forget, that though he is now, like his brother delegates, about to receive the wages, it is not incumbent on him to perform the services, of corruption. The importance of the duties which he has to perform, will be the standard by which we shall pronounce judgment on the manner in which they will be executed. His evidence will very shortly come before us, and furnish us with the means of judging whether these suggestions were necessary or not. We again caution him against the consequences of a default of duty for which, in deficiency of information, or the rectitude of the cause in which he is embarked, he can have no apology. His task is an easy one—merely to tell the truth; if he do this he ill do enough. It

is now too late to remonstrate on the ruinous impolicy of exhausting the College treasury by the expenses of a deputation, one half of whom would have been sufficient for all useful purposes. We trust, indeed, that the wild and wicked proceedings of the College for the last few weeks, will awaken the rational and moderate members of the body to a sense of the danger and impropriety of suffering the destinies of an institution which might be rendered, by very little trouble on their part, highly useful to society, to fall into the hands of (with one or perhaps two exceptions) some half dozen of designing men, who, in point of abilities, are really below the same number of teachers in any similar institution in Europe.

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After the late exhibitions of duplicity at the Westminster Medical Society, we hoped and expected that we should not be required to notice any proceedings connected with the name of Dr. George Gregory. Disappointment, however, is our portion, insomuch as we find it to be our imperative duty to insert a "*Narrative*," which this individual has printed, descriptive of the occurrences which have recently transpired at St. George's Hospital. Here is the document, inserted *verbatim*, and it should be remarked that the words in Italic characters are so printed in the original. We entreat every reader of this Journal to bestow on it a patient examination, assuring him with confidence that his time thus employed will not be ill bestowed.

"DR. GREGORY'S NARRATIVE.

"St. George's Hospital, June, 1834.

"On Wednesday, May 21st, it was announced, at the Board Room of St. George's Hospital, that a vacancy existed in the office of teacher of medical jurisprudence in the school attached to that hospital. On Thursday, May 22nd, Mr. Stone showed me a circular from Drs. Hope and Williams, proposing to lecture conjointly on that subject. The same evening I wrote to Dr. Macleod, offering my services in a like capacity. On Friday, May 23rd, by the advice of Dr. Macleod, I wrote formal letters to all the medical officers of the hospital, soliciting their support in my application for the office of lecturer on medical jurisprudence.

"In the course of the following week, I received a very kind reply from Mr. Brodie, giving me every encouragement; also one from Dr. Chambers, expressed in very flattering terms; a third from Dr. Seymour, stating that 'individually he should be happy to promote my views;' and a fourth from Mr. Cæsar Hawkins, giving no definite opinion. All concurred in stating, that the matter was still undecided.

"The extremely favourable replies from Dr. Chambers and Mr. Brodie, led me to think that I might rely upon the support of the medical officers in any office about the hospital for which I was qualified. About this period I threw together a few loose hints on the subject of an assistant-physician, which I sent to Dr. Macleod. As this was an *ex-parte* statement, or project, written hastily, on a subject wherein I was imperfectly informed, *and on the merits of which I could not pledge myself*, I sent it anonymously. On Saturday, June 7th, I first heard that the medical officers of the hospital did contemplate the appointment of an assistant-physician. I concluded that they had fully considered the subject, and had good reasons for taking such a step, and naturally became anxious to know how far I might calculate upon their support.

"Between the 7th and 11th of June, I communicated several times with Dr. Macleod on this subject. I represented to him that my age and standing in the profession, and the peculiar circumstances in which I stood with regard to one of the candidates (Dr. Hope, with whom I had had an unsuccessful contest a few years ago at the Marylebone Infirmary), would not justify my coming forward for the inferior situation of assistant-physician, *unless with a strong moral certainty of success*, which could be derived only from an explicit avowal of the feelings and wishes of the medical officers. I entreated Dr. Macleod to be explicit on this subject, but his reply was, '*All that I have been able to get for you* (or all that I can ensure you), *is a clear stage and no favour.*' When pressed still more closely, on the evening of Tuesday, June 10th, his reply was, '*You must not calculate on what is called the medical interest, for I fear the majority of the influential medical officers of the hospital are against you.*' However, he added,

Do not trust to what I say. Go and see the other medical officers, and judge for yourself.

"Accordingly, on the morning of Wednesday, June 11th, I called on Mr. Brodie, whose reply was so unsatisfactory, that my first impression was to proceed no further; but, at his instigation, I called on Drs. Seymour and Wilson, who candidly professed their intention to be *perfectly neutral* in the approaching contest, so far at least as Dr. Hope and myself were concerned. I begged for further explanation—as for instance, whether they would individually vote for me?—whether, if asked, they would state that, on public grounds, I was the candidate that deserved the support of the governors; but I could ascertain nothing beyond their determination to maintain the *strictest neutrality*.

"In an *hour* after this, the proposal for an assistant-physician was made to the Weekly Board by Dr. Seymour, and the canvass began. I addressed Drs. Seymour, Wilson, and Macleod, in the Board Room, who told me that my election (if it took place) would have their entire concurrence and approbation, but that *they could not do any thing more for me*. I now applied myself to other influential governors. Sir Charles Clarke and Mr. Tupper most handsomely volunteered their support. Mr. Fuller stated, that while the physicians of the hospital remained neutral, he could only offer me his *single* vote. Other governors whom I addressed, hung back until the wishes of the physicians were declared.

"There was encouragement in all this, but not that moral certainty of success, without which I could not safely enter on a canvass of six hundred governors for an inferior situation not yet created, and about the necessity and propriety of which doubts existed. Still I began my canvass, hoping that to-morrow might bring with it a brighter prospect. I met however with but very partial encouragement. Many of those medical friends, on whose support I relied (Dr. Holland, Dr. Merriman, Dr. Park, Mr. Pennington, Mr. Powell, Mr. Lockley), were already busily engaged in the support of other candidates. The neutrality professed by the physicians of the hospital was the line of policy adopted by many governors. I now reverted to that memorable expression of Dr. Macleod's, that '*he feared the influential majority of the medical officers of the hospital were against me*;' and finding this opinion corroborated by various circumstances that occurred in the course of my first day's canvass, and that great doubts existed as to the propriety of my canvassing at all for an office not yet in existence, I decided, at ten o'clock p.m., to retire from the contest, and issued notices to that effect on Friday morning, June 13th, at eight a.m.

"At nine o'clock Dr. Macleod called upon me, and *now* professed himself so anxious for my success, that, as he himself states (in a letter to me, dated June 15th), '*he spent nearly an hour in endeavouring to dissuade me from the rash step I had taken*.' 'Having failed in my efforts,' he adds, 'I set out to Mr. Stone's, as a friend of yours, and *urged* him to go to you. From him I went to and saw, either at their own houses, or at the hospital, five of the medical officers; and having positively assured myself again that there was no under current against you, I returned to Weymouth Street once more, and was once more unsuccessful.'

"The medical officers of the hospital having now, after two days of strict neutrality, while I was in the field, declared themselves unreservedly in my favour, when I was not, offers of assistance poured in upon me from all quarters during the whole of Friday, the 13th of June; but the secession, which had drawn this opinion forth, was now widely known, and the other candidates availed themselves of it to secure votes.

"On Saturday, June 14th, I received a letter from Dr. Wilson, one of the physicians of the hospital, telling me, 'that his anxiety for the best interests of the hospital, induced him to request my vote and interest in favour of Mr. Lane, candidate for the office of second assistant-surgeon.' In my reply, dated Monday, June 16th, I begged to inquire, why his anxiety for the best interests of the hospital might not equally have led him to select one out of the many candidates for the office of *assistant-physician*; and why *neutrality* was professed in the one case, and *favouritism* in the other.

"In his reply to me, dated 17th June, Dr. Wilson states, that 'with respect to the assistant-physicianship (in the propriety of which office he concurs), he is, and shall remain, neutral until the Special General Court shall have decided on the appointment; but with respect to the second assistant-surgeoncy, in the necessity or propriety of which appointment he does *not* concur, he feels it due to the best interests of the hospital to support and make known his opinion of a particular candidate.'

"Early on Tuesday, June 17th, I addressed a long letter to Dr. Seymour, embodying the substance of the preceding statements, and pointing out to him how much I had suffered from that system of

strict *neutrality* now for the first time (and I hoped the last) adopted by the physicians of St. George's Hospital, and for which, as being the first time, I could not possibly have been prepared. To this I received, in reply, a note, requesting me to call without delay; I did so, and met Dr. Macleod there.

"In the course of conversation, I inquired whether the physicians of the hospital were really decided as to the necessity of an assistant-physician. They seemed disposed to leave the matter upon its own merits to the judgment of the governors at the Special Court; and when I further inquired, whether they would consider any exertion on my part to defeat the proposed measure as personally hostile to the physicians, both Dr. Seymour and Dr. Macleod replied, '*Certainly not.*' On the following day, June 18th, I received a letter from Dr. Seymour, embodying the substance of this conversation, and concluding with the emphatic expression, '*Certainly not.*'

"I now, *for the first time*, set myself seriously to consider whether the office of assistant-physician was really necessary, and what arguments could be adduced *against* it. I began to compare the medical establishment at St. George's with that of other hospitals, and collected from various sources the several documents which I laid before the Special Court on Friday, June 27th. These, in my opinion, fully authorized me in then stating to the governors (as I did also in a circular, dated June 18th), that the present establishment of medical officers is *effective* for all the purposes of the charity. I convinced myself, that the analogy between the appointment of assistant-physician and assistant-surgeon, on which, in my *anonymous* communication to Dr. Macleod, I had thoughtlessly laid stress, did not, in truth, hold good, inasmuch as an hospital physician can be *effectively* educated at a dispensary, while an hospital surgeon cannot. The whole tenor of the proceedings in this case convinced me, that if now, or at any other time, further assistance in the medical establishment of the hospital should be required, it ought to be in the shape of an *additional*, and not in that of an *assistant* physician. I could not but feel, upon reflection, that a system, under which St. George's Hospital had attained its present celebrity, could not be essentially defective; and I therefore proposed to the Special General Court the following resolution:—'That a sub-committee be appointed to inquire into the present state of the medical establishment of the hospital, with a view to ascertain whether any addition to it is called for by the altered circumstances of the hospital; and if so, under what denomination such new office should be created.' I cannot but regret that this resolution was negatived.

"In looking back upon the course which I have pursued, from the onset to the close of this affair, my only regret is, that I was ever induced to become, even for a few hours, candidate for an office, before the necessity and propriety of establishing that office had been dispassionately considered. The question admits of great difference of opinion, and the decision of it is of such vital importance, if not to the present, at least to the *future* interests of the charity, that I trust it will still be calmly reconsidered, before the measure is finally carried into execution.

"GEORGE GREGORY, M.D.

"31, Weymouth Street,
June 28, 1834."

Is this man demented, that he should take the pains of publishing to the world a correct record of his own shuffling conduct? But let us see; let us strip this production of the fringe that hangs about it, of the veil that is thrown over portions of it, and observe of what the fabric consists.

Having received an intimation from the medical officers of the hospital, in reply to a solicitation made by him, begging their support for his appointment to "the chair of medical jurisprudence," he was "led to "think *that he might rely upon the support* "*of the medical officers for any office about* "*the hospital for which he was qualified.*" With this agreeable impression tickling his mind, GEORGE looks about him in order to discover whether *any* situation in the hospital be vacant, but unfortunately every place is filled, from that of physician down to that of nurses and messengers. What was to be done? A *new* office must be created to be sure, and GEORGE, not forgetting the old maxim, "*Facilius crescit, quam inchoatur, dignitas,*" resolved on throwing together "a few loose hints" on the subject of an *assistant*-physician. These "hints" he sent to "his friend" and literary coadjutor, RODERICK MACLEOD; but he transmitted them "*anonymously*," be-

cause he was "imperfectly informed on the "subject, and on its merits could not "pledge himself." Alas, GEORGE, you should not trouble yourself to make explanations; if you will only tell us what your conduct is, we will dispense with your reasons. Why, GEORGE, as you threw the "loose hints" together, with no other view than that of creating the office for yourself, would it not,—come, come, be candid,—would it not have been rather too barefaced to have attached the name of *George Gregory* to the ingenious device? How would it have appeared, think you, most sapient GEORGE, if a *suggestion* for the creation of such an office had appeared, signed *George Gregory* on one week, had it been followed, on the next, by a letter of *solicitation* bearing the same notable signature! So it was sent "anonymously" to a brother editor, who, of course, was incapable of recognising the autograph! What happened next? Why, of course, on the 7th of June, GEORGE heard that the medical officers of the establishment "*did* contemplate the appointment of an assistant-physician." *Of course* they did! Our hero now sets to work to fill the place which his own ingenuity had created. But, alas, for the mutability of human hopes and expectations! In less than four days he found there were *other candidates* in the field, and instead of obtaining the support of the medical officers, on which he had all along calculated, poor Dr. GEORGE succeeded in obtaining that kind of support which TEDDY MAHONEY felt fully assured would crown him with victory—"faith, the warm neutrality of his friends!" Aye; our doughty schemer was "assured in the Board Room" on the 11th of June, within an hour after receiving an unsatisfactory reply, and after calling, at Mr. BRODIE'S instigation, on Drs. SEYMOUR and WILSON, who candidly professed their intention to be "perfectly neutral,"—"in an hour after," exclaims GEORGE, "the office was created and the canvass begun." "I then," says he, "addressed Drs. SEYMOUR and WILSON in the Board Room;" and of what do these friends assure him? How ardent must be their regard for their friend! We must quote the words of our hero:—"They told me that my election (*if it* "*took place*) would have their entire con-"currence and approbation, but that they "could not do anything more for me." That word "*do*" comes in strangely, and, when *sounded* in the sentence, strikes upon the ear most ludicrously. Look at your "*if*," Dr. GEORGE, in the parenthesis; the "*do*," you see, was fudge; you were to get their *approbation* IF you were elected. This was a rare "*do*," truly, towards obtaining the office,—their "concurrence and approbation" after you had acquired it! What think you now of the support of "neutral" friends? Your opinion of their worth, perchance, harmonizes somewhat with their opinion of what would be your value as a colleague.

Finding how matters stood, our discomfited hero retired from the contest, in exactly two days after the proposal for creating the office had been made before the Weekly Board. On being fairly beaten out of the field by his opponents,—on retiring from a contest for an office of his own creating,—after having thrown together the "loose hints" on the subject of such an office,—what step does this actor of many parts next take in this farcical and disgusting transaction? Why, this inventor of the office exclaims, "I now *for* "*the first time*—(indeed!)—set myself se-"riously to consider whether the office of "assistant-physician was *really* neces-"sary, and what arguments could be ad-"duced *against* it." (He has himself printed the word "against" in italics.) And what was the result of the cogitation of our most profound thinker and schemer? Why, that the present establishment and

medical officers in the hospital "is *effective* for all the purposes of the charity;" and that, if any further assistance should be required, it ought to be in the shape of an *additional*, and not that of an assistant, physician. So, on discovering—after he had caused the office of *assistant* physician to be officially proposed—that *he* had no chance of occupying it, GEORGE commences knocking down that office, and creating another upon its ruins, trusting to fortune, the versatility of his genius, and the "neutrality" of his friends, for the chance of filling the newly contemplated post of honour.

On the 8th of June we find that our hero addressed the Governors in the following circular:—

*To the Governors of St. George's Hospital.*

My Lords and Gentlemen,—It is not my intention to become a Candidate for the new Office contemplated by certain Governors of the Hospital, and which they propose to denominate ASSISTANT-PHYSICIAN; but whenever a Vacancy may occur among the ordinary Physicians of the Hospital, I shall do myself the honour of most respectfully soliciting your support and interest.

The Special General Court, summoned to consider the propriety of either creating such an office, or of leaving the establishment of attending Physicians upon its present effective footing, will be held at the hospital, on Friday, 27th June, at twelve o'clock.

I have the honour to be, my Lords and Gentlemen, your very faithful humble servant,

GEORGE GREGORY, M.D.
31, Weymouth-Street, Portland Place,
" 18th June, 1834.

This is the concluding touch of the picture; it admits not of additional light, and the shadows are complete. On perusing this most extraordinary epistle, where is the person who, whatever may have been the subtlety of his own conduct—whatever he may have observed of trickery or tortuous designs in the conduct of other men, could ever imagine, for one moment, that the writer of this circular was himself the man who first threw together the "loose hints" which suggested the creation of the office of assistant-physician? In the second paragraph, it is intimated that the medical establishment is already upon an "*effective* footing;" in the first part of the introductory paragraph he speaks of a "new office contemplated by "*certain* governors of the hospital which "*they* propose to denominate ASSISTANT-"PHYSICIAN"—(*They*, Dr. GEORGE, are not so stupid as to apply the epithet "office" to the man who fills it. The blunder is your own, Dr. GEORGE); and then he goes on to say that "whenever a vacancy "may occur among the ordinary physicians "he shall do himself the honour of most "respectfully soliciting their support." Should he stand forward in that character, we may remark that the medical officers and governors will confer an honour upon Dr. GEORGE GREGORY if they even consider him a very "*ordinary*" candidate.

We cannot close this article without throwing into juxta-position four statements made by GEORGE GREGORY in different parts of his "narrative" and circular. If they are not seen at one view, it is almost impossible to estimate correctly the very peculiar merits of their author.

"About this period I threw together a few loose hints on the subject of an assistant-physician, which I sent to Dr. Macleod."—*Narrative, 1st page.*

"*I began my canvass*, hoping that to-morrow might bring with it a brighter prospect. * * * I decided at ten o'clock p.m. to retire from the contest, and issued notices to that effect on Friday morning, June the *thirteenth*."

"I now, *for the first time*, set myself seriously to consider, whether the office of assistant-physician was *really* necessary, and what arguments could be adduced *against* it."—*Narrative, 3rd page.*

"It is not my intention to *become* a candidate for the new office contemplated by certain governors."—*Circular*, June the *eighteenth*.

He "began his canvass" on the *eleventh* of June, although he informed the governors on the *eighteenth* that it was "not his *intention* to *become* a candidate." Verily we are thankful that such men as GEORGE GREGORY write "Narratives" of their proceedings. Although the law of England does not require that culprits should criminate themselves, yet we think that no evidence, condemnatory of a man's conduct or character, is of equal weight with that which falls from his own lips, or is indited by his own pen.

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WE feel it to be our duty to call the attention of the PARLIAMENTARY COMMITTEE to the medical department of Christ's Hospital. The election of a physician to that Institution has lately taken place under very suspicious circumstances, and it is a well-known fact that the disease commonly termed *ringworm* has raged in this hospital for some years past. Although the complaint is of the most troublesome and perplexing, still it is not,—as it would appear to be in Christ's Hospital,—an incurable malady. The subject at any rate demands immediate inquiry, and the medical officers should be instantly summoned before the Committee.

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THE Governors of that venerable institution, SAINT BARTHOLOMEW'S HOSPITAL, animated by the same benevolent spirit of Christian charity which has so long influenced their brethren of SAINT GEORGE'S, lately proposed to elect TWO ASSISTANT-PHYSICIANS, but with this proviso—that they should be selected from the *Fellows*, and not from the *Licentiates* of the College!

When the Chairman of the Parliamentary Committee heard of this proposition, he promptly summoned the secretary of the said institution before the Committee of the House of Commons, and on examination it was elicited from the hospital functionary that such a *proposal* had indeed been made, but that the *idea* had been relinquished until the proceedings of the Parliamentary Committee are concluded!!

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## DUBLIN COLLEGE OF SURGEONS.

*To the Editor of* THE LANCET.

SIR,—Perhaps at this momentous period the pages of THE LANCET, the able and ever-ready champion of medical reform and correction, will not be closed against the following observations, however imperfect. At Dublin, as well as elsewhere, we have two grand parties, which are *in general* opposed to each other. One, which dignifies itself with the appellation of "the college," "college party," &c. &c.; the other, which is stigmatized by the worthies of the former party with the names of "low," "vulgar," "radical," "anarchist," &c., and everything else that the virulence of selfish monopoly, and interested love of corruption, can suggest. The former, led by their tastes, habits, and interests, boldly maintain "things as they are," land our institution to the skies, see nothing but perfection within its walls, and boast that they and they alone shall come off with flying colours before the grand "inquisition." "For," say they, "what can be more liberal than our constitution?—what more in unison with the spirit of the times? We are a scientific body—we patronize science, we teach science; the curriculum of *our* school, and ours only, is the true standard of safety for the public and respectability to the profession. We examine without fear, favour, or affection; all our services are performed without remuneration. We are a body young, fresh, and vigorous, and exhibit the grand desideratum, the wondrous monster, a corporation without corruption and abuse; with little money in our purse, but a vast deal of virtue in our hearts, and science in our heads, sacrificing our private interests to the advantage of the community. We constitute a little *republic*, where every individual has an equal voice in our councils; and, to crown all, we possess the ballot, which guards us against the little frailties of humanity,—the ballot, the essential defender of probity and impartiality. In fact, we have a right, not only

to expect a triumphant acquittal, but, on the strength of merit alone, to swallow up all other bodies, and alone to survive the general and deserved wreck of surrounding corruption and degeneracy."

This is a handsome picture, no doubt, and the one that will be laid before the Committee; but, alas! they have painted it themselves, and the opposition maintain that these gentle limners have not only considerably flattered the existing features, but omitted altogether several deformities that sadly disfigure the original. It is retorted, with their wonted Billingsate, that the latter party is an ignorant, presumptuous, and contemptible set, who *should* "have no weight, and should not be listened to for a moment."

In the above remarks we have another clue to the *policy* of our "*masters*." They will make every endeavour that cunning and stratagem are capable of, to represent the opposition as contemptible in number and respectability; and, indeed, it is currently reported that they have already laid the train for this by embassies, &c. &c., in the proper quarter. But the opposition is not only respectable but strong, very strong, considering the nature of our constitution. It is true they are too often in the minority, but this is because they do not exhibit the same energy and union, the same tact and ability, that are so evident in the measures of their opponents, who if they knew nothing else, are at least intimately acquainted with the science of divisions, whipping in, &c. &c.

The College party is commanded and manœuvred by, 1st, the surgeons of the Meath and Stephens' Hospitals; 2nd, the professors in the College School, and that in Park-Street, the two academies being considered only parts of the one great whole, the Park-Street being the model institution which fits for the other; 3rd, Mr. Kirby. Alas! that he should be recorded on the filthy list; he, so long the champion, the persecuted champion, of reform, the corrector of abuse, whose name is associated with the regeneration of medical science in Ireland, with active energy and virtuous principle. Never did public character exhibit a greater want of judgment in change of policy than has Mr. Kirby. Supported by the "spirit of the age," with what brilliant glory might he now, at length, lead on to victory and triumph, amidst applause and confidence well earned and deserved! But, no; his evil genius has prevailed; his vanity could not withstand the high temptation, when he saw his long-fought enemies at his feet, as suitors, to crown him with laurels, treacherous laurels. He fell! "Oh, what a fall was there!" He now carries but little influence. By one party he is merely looked upon as the victim, the doubted victim, of strategy and manœuvre, whilst by the other he is still hated and suspected. Upon this party hang, 4th, the wretched, contemptible, emasculated squad of *grinders* and others, who, having served their time in certain quarters, see nothing in principle to recommend it and make it the rule of their conduct, but who abandon themselves to the acknowledged vices and corruptions of a system which may bring some grist to their mill, or lead to the donation of a few ivy leaves at the oyster symposia in Kildare-Street, which they are willing to receive in barter for independence and manliness of character. The strength of the other party is soon told; the independent members "unattached," the minor private schools, and the Richmond Hospital men, which latter, however, cannot always be reckoned upon, as some of them are interested in certain abuses; the whole of them impelled by a false esprit de corps, sometimes desert at a division, if one of their body is likely to be benefited as college deputy, &c.—a crisis, be it known to them, that never results from accident or respect, but from cold-blooded policy and design, in order to divide the enemy, which too often succeeds.

These parties are divided, and hotly opposed, on several points; but that which has recently excited most feeling, and the expression of most independence, is the question of a *council*! Yes, Sir, a council! It has worked so well in the London College, and given the body of the members such general satisfaction,—has effected so much general good to the detriment of *private* interests, that we must have it in Ireland. "Our body is getting too numerous, our meetings are too noisy, we shall lose character; formerly a democracy suited our limited number, but a numerous democracy is a practical evil. We must have a council." Now not to notice the candour of these advocates, pleading their democratic constitution as a grand argument in their favour to establish their liberality, and now when it suits their purpose, building on the self-same principle, the necessity of a change of constitution, we freely admit that our body *has* become numerous, alas, too numerous! But how? In great measure from the unceasing solicitations and exertions of these gentry to get apprentices; holding forth every inducement to parents, friends, and guardians, which they ought to know can never be realized. True it is our meetings are noisy and often indecorous; but to the accusing party belongs the glory of this also; it results not from our

numbers, for really a greater number of actors do not take part in our proceedings than ever there did. It does not result from faction; it does not result from any low or improper motive, and this they well know who make the accusation; but it does result from the insolent impatience with which every observation from the opposition side of the house is spurned and trodden under foot, with noise and clamour previously concerted. True it is, a democratic constitution suited us formerly; not because we were few in number, but because we had a democracy, a *real* democracy, and not the mere insulting shadow and name; one that protected all our interests and diffused all its advantages equally amongst all. We have undergone other changes than mere increase of number. We have, in point of fact, lost our constitution; and whilst taunted with the possession of privileges, which are but insulting and empty names, we labour under all the sad and ruinous defects and grievances of an imperious and galling oligarchy; a system which has concentrated in about a dozen hands, our hospitals, our hosts of apprentices, our schools, the management of our constitution, our friends, all the posts of honour, influence, and public prominence; and I may say, the sum total of the practice of our profession; the remainder being delivered up to *our* antagonists, but *their allies*, the apothecaries; whilst they have contrived to tie up our hands in innumerable ways.

"We shall lose character." Nay, we have lost character, and we deserve to lose character. So does any body which demeans itself as our College does, which, without principle or show of reason, shrouds itself in mere power and possession; meets argument or appeals to justice with insulting insolence or noisy clamour and vulgar triumph,—whose constitution must *not be printed* or declared, but hang on the ipse dixit of one or two of its leaders, who meet and overrule every suggestion of improvement, general utility, or impartial justice, with packed majorities,—a power derived from the violation of one of our former most valued democratic regulations.

But when did this new light break in upon our rulers? When did this grand necessity appear so imperious? Not when people quietly submitted to their control; not when they themselves possessed undisputed sway; not when everything went on smoothly and satisfactorily; *but* when, by reason of their continued encroachments in power, their growing insolence in command, the pressure from without, aided by the spirit of the times and the wants of our impoverished body, have made the continued possession, authority, and management, difficult, and have shaken these gentry in their seats.

A council! Why, in God's name, let us have a council. We cannot suffer by the change. But first, for the sake of sacred justice, let us revert to our former simple condition; let us once again have a free stage, fair play, and no favour; let us be liberated from our present oligarchy, which is virtually a council, and of the worst character. Then let us have a responsible council or committee of management, or what you please. To this there can be no objection; but for Heaven's sake do not violate every principle of justice, and outrage all our better feelings, by rivetting upon us our present system, with all its abuses, which would be the only effect of a council in our present condition.

The next topic upon which we are divided is the question of the school; indeed this question takes precedence of all the rest, as it will be found, in a great measure, the central point on which the whole circle of our corporation revolves,—the very key-stone of our "rulers'" private interests. In former times, without doubt, it was not only the proper policy of our College, but also the interest of the community, that this school should be nurtured and patronized; because, in fact, there was no other fit place of medical instruction in Ireland. It was of trifling expense to the College, it was one in which the apprentices of all the members, diffused equally amongst them, were educated for small fees. In a word, we had all an interest in it, and it was absolutely requisite. But now things have totally changed; it is no longer the humble and useful concern that it was: it sets up to be a pompous academy; it is a monstrous drain upon our impoverished funds, and *we* have not a single interest in it; *our* apprentices have not a single advantage above the common run of pupils; their tickets, of course, are paid for out of their masters' pockets. In fact, we maintain an expensive piece of machinery which effects no earthly purpose above other schools than as a decoy for apprentices and pupils to Messrs. Colles and Jacob, and hoc genus omne. For, would it be believed, that not even our associates are admissible into this *liberal* establishment, without payment of fees, as pupils, unless they have served an apprenticeship to one of the professors? It is scarcely possible to imagine that anything so monstrous, absurd, or barefaced, could be coolly and deliberately insisted on, as to append to a public body, a system of merely private

interest, to make that body totally subservient to that interest, and throw the entire expense upon the community, the majority of whose real interests are altogether opposed to it. Yet so it is. But what is more surprising is, that men of education and common sense, as we must presume the members to be, are found not only to submit to this, but to be the passive, the voluntary machines of its perpetration. Do we want a single other proof that there is "something rotten in the state of Denmark?"

They would have some excuse or palliation were this school conducted on liberal principles, were it essential to medical instruction, were it a really scientific establishment, which reflected honour and character upon our College and the community, did it afford merely opportunity and emoluments to persons devoted to science, who would be inclined to give up all their attention and labour to the advancement of knowledge, and to distinguish themselves in the several branches they profess, thereby generating a glory which, in some degree, would be reflected upon our entire body. But, no, it is none of these things; it is conducted, as I have shown, upon the most contracted and illiberal footing; it is not essential to instruction, for it is not a whit better than any of our private schools, nor as good as some; it has no character for science; it is well known that the science and principles of our profession are ridiculed by some of our professors, and mere points of practice and experience only insisted upon—a practice perhaps founded on the ignorance of the teacher in that department, but one that must lead to the general discountenance and retardation of science, without which our profession is a mere system of empiricism and charlatanry.

Nor are our chairs filled by enthusiastic lovers of science, devoting time and labour to its promotion; they are not even looked upon in that light, but only as secondary things, leading to so much pelf as pupils may bring in, and posts of public prominence which may lead to practice, or keep others out of practice, which, by-the-by, is a thing of equal importance. In fact it is nothing better than a private school in many respects, possessing besides several defects, and leading to several abuses (from which the former are quite free), of which the following are a few:—It costs us a great deal of money, while it is opposed to our interests and those of science; it excites a monstrous deal of ill will and worse words; it is the cause of almost all our trickery and manœuvring; it brings us into unpleasant and disreputable hostility with bodies who do not afford a reciprocity of free trade in education, thereby entailing a monstrous grievance and expense on pupils; it diverts attention from every other topic of vital importance, and, besides, entails a host of other evils. Within our walls the school is under the direction of a committee, whom, you may say, are nominated by themselves, and who, therefore, as might be expected, see in general nothing but perfection in the operation of their entire system.

Again, our professors must pretty generally be members of our Court of Censors, where they have to sit in judgment on the pupils of rival schools; I shall not go so far as to say, that gentlemen on their oaths have ever been guilty of any *wilful* dereliction of duty; but it must be confessed that the accusation has been made, and the above facts, as well as the frailty of human nature, afford too much ground for suspecting it, and, I am sorry to say, it has been not a little strengthened by the recent indelicate conduct of one of our officers, who, moved virtute officii, insists on being present at the deliberation of the court, even when the merits of one of his own apprentices is the question at issue. His presence being found *inconvenient*, it was moved by the general body, that the officer aforesaid was not required at the deliberations of the court; he was his own defender, and after a stormy debate, he carried his point at a division, and still intrudes, by a majority of one, upon the private councils of the court. Let me ask, is it base, or ignoble, or factious, to be opposed to such a system as this,—to object to pay for an establishment that yields in return only private emolument to Messrs. Jacob, Harrison, and Co.?

DELTA.

Dublin, June 25, 1834.

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## PARLIAMENTARY MEDICAL COMMITTEE.

### SELECTION OF WITNESSES.

*To the Editor of* THE LANCET.

SIR,—The list of witnesses examined by the Committee on Medical Education, as published in THE LANCET of July 5th, naturally suggests the remark, that the General Practitioners of the Provinces have not had the opportunity of expressing their sentiments or their expectations through the medium of witnesses selected from their own body.

Among those examined are physicians, *pure* surgeons, and the advocates of the Apothecaries' Company. Is it possible that Mr. WARBURTON has made the mistake of supposing that any of these parties are either able or willing to advocate the interest or explain the feelings of General Practitioners?

I am, Sir, yours,
A GENERAL PRACTITIONER.

[Several letters from surgeons in general practice have been addressed to us on this subject. That the witnesses already examined, belonging to the medical body, have consisted for the most part of professors, teachers, pure physicians and pure surgeons, is an undoubted fact; but from the manner in which the inquiry has been conducted, we are certain that the abuses in every branch of the profession will be investigated, and that the just interests of every department will receive a full measure of protection. Practitioners in the country, who may have it in their power to furnish the committee with important evidence should communicate instantly with Mr. Warburton, the Chairman of the Committee, or with some member of that body. Of course the charge of remissness cannot be sustained in the absence of proof that witnesses competent to give evidence with reference to medical abuses, have been refused an opportunity of offering their testimony.—ED. L.]

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MEDICAL EVIDENCE AT INQUESTS.

"*To H. Warburton, Esq., Chairman of the Committee on Medical Education.*

"Bristol, June 30, 1834.

"SIR,—Being aware that the subject of the attendance of medical men on Coroners' Inquests will not be overlooked by the Committee of which you are the chairman, I take leave to submit the following communication.

"As the law now stands a medical man who accidentally sees a wounded person *before* death, is liable *as a* WITNESS to give evidence before the Coroner, and perhaps to be kept in attendance at some remote assize town for *many days*. For his attendance before the Coroner he is seldom remunerated unless the friends of the deceased are able and *willing* to pay him for his attendance; at a prolonged assize no payment would be a competent remuneration.

"It is true that if a surgeon has only been called to see the body *after* death, he may refuse to enter into a recognizance to give evidence at the Assizes, but as it is impossible for any medical man to foresee the consequences of visiting a patient under *any* given circumstances, it is incumbent on the profession to obtain legislative interference for their protection.

"It may not be inapplicable to mention that at the special commission held in Bristol in January 1832, three medical men were in constant attendance during the whole thirteen days in compliance with a summons from the Coroner; that officer very properly brought the subject prominently before the Judge (Mr. Justice Taunton), whose observations were exactly what might have been expected from so liberal and enlightened a character, but his power did not extend to any further interference in the matter.

"Perhaps the most effectual method of obtaining the object in view would be the introduction of a clause in the Bill now before a Committee of the House of Commons, *to empower all Coroners to issue a compulsory summons to the overseers of the poor, or other persons having the management of the poor-rates*, to provide for the attendance of a medical man upon every inquest, for the purpose of examining the body, or to give evidence, and to defray the expenses from the poor-rate.

"There is no law by which any public officer is compelled to provide medical evidence, and the expense appears to be the only real difficulty of the case.

"WM. HETLING."

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## CORRESPONDENTS.

The communication of Mr. Dermott, in reply to the letter of Mr. Houlton, is necessarily postponed, from want of space, until next week.

A report of the trial "Pursell *v.* Stephens" has been received. We shall publish all the useful portions of it in the next LANCET.

*A perpetual Pupil* of the Aldersgate-Street Medical School, must authenticate his statement, confidentially.

We fear we shall not be able to find room for *Mr. Canel's* letter.—*H. B.* Want of space.—An old subscriber must authenticate his statements.—The unauthenticated statements of *Argus* would lead to a controversy for which we could not find room in our columns.

The letter from *Glasguensis*, although in type, is necessarily omitted this week from want of space.

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## BOOKS RECEIVED.

Pharmacopœia Homœopathica. Edited by F. F. Quin, M.D. &c. 1834. 8vo, pp. 165.

On the Diseases peculiar to Females; including Pregnancy: designed as an Appendix to the author's "Modern Domestic Medicine." By T. J. Graham, M.D., &c. 1834. 8vo, pp. 235.